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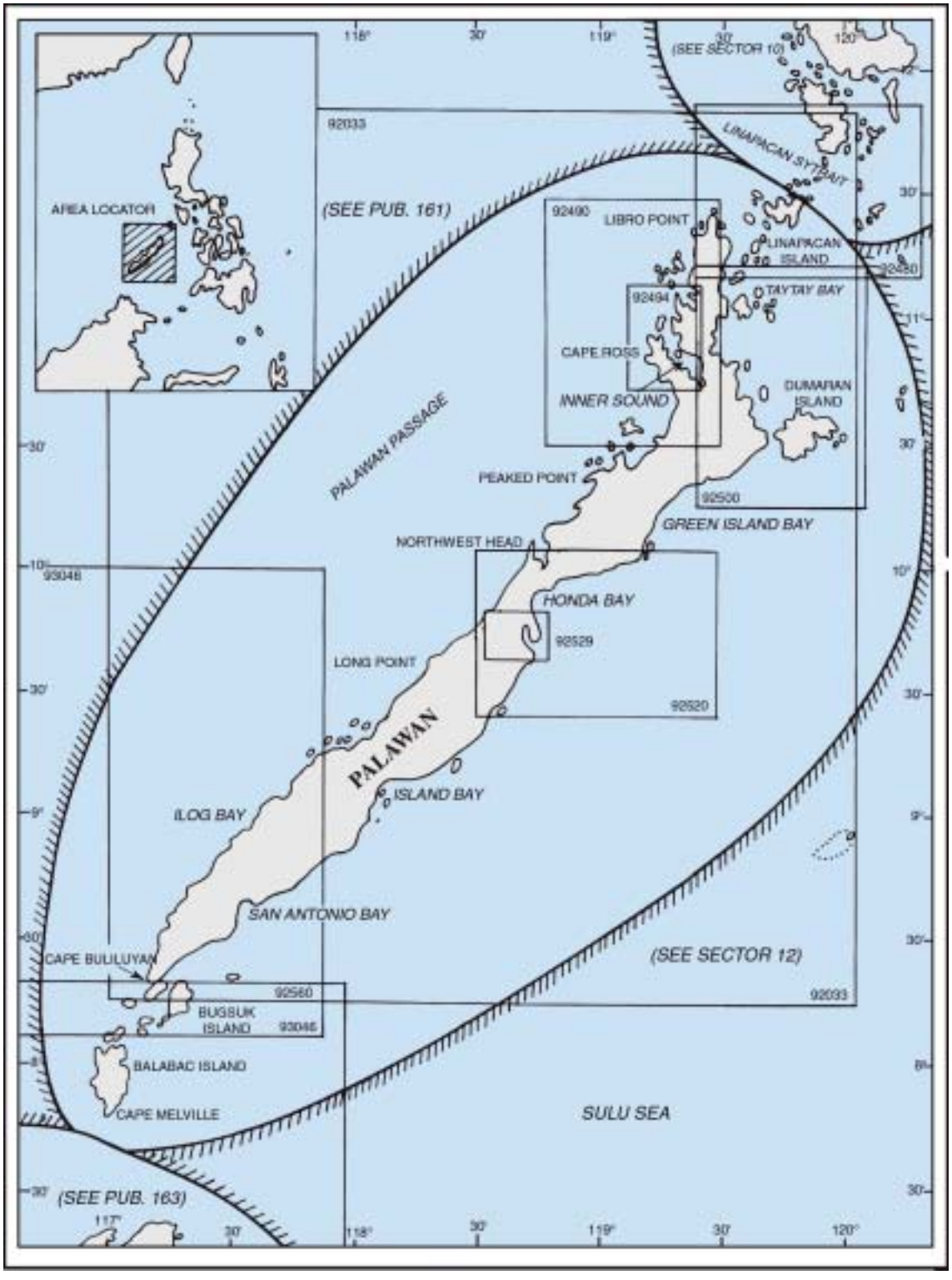


Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR **11** —CHAR T INFORMATION

Table of Contents

Table of Contents

SECTOR 11

EAST AND WEST COASTS OF PALAWAN, INCLUDING PALAWAN PASSAGE

Plan.—This sector describes Palawan Passage, the E and W coasts of Palawan, off-lying islands, and Balabac Strait. The sequence of description is N to S.

General Remarks

11.1 Palawan, the fifth largest island of the Philippine Archipelago, separates the Sulu Sea from the China Sea. The island is mountainous and steep with many peaks attaining heights of over 900m. The mountain peaks are good landmarks, but the higher ones are usually covered by clouds. They are almost always clear for a brief period in the early morning and late evening except in stormy weather. The island is sparsely inhabited and little is known of the interior.

The W coast of Palawan consists mostly of hills and mountain spurs from the high central range. These spurs terminate in steep slopes or cliffs. The coast is generally irregular, especially in the N part where there are many small islands and deep bays. There are some coastal lowlands which are seldom over 2 or 3 miles wide. There are no important ports on the W coast of Palawan. Malampaya Sound, one of the best natural harbors in the Philippine Islands, indents the NW coast of the island.

Within the 200m curve, which lies about 33 miles W of Libro Point and trends SW to a position about 23 miles W of Cape Buliluyan, the W coast of Palawan is fronted by numerous shoals and reefs. Some of the area has not been thoroughly examined and additional dangers are frequently reported. Vessels are advised to remain outside the 200m curve unless they have local knowledge.

Winds—Weather.—The W coast of Palawan is entirely exposed to the Southwest Monsoon. It is sheltered from the Northeast Monsoon and from the trade winds by the mountainous terrain. The monsoons on this coast are subject to so much interruption that it is difficult to state exactly when they begin. The Northeast Monsoon generally prevails from November to April. Moderate NE and E winds are experienced during this season. In November and December the weather is variable with the prevailing winds changing at times to SE. In November it is not unusual to experience a SW gale with dark cloudy weather and rain.

The transition period occurs during May and the early part of June. It brings the best weather with land and sea breezes predominating. The land breeze blows from the S and SE in the morning and the sea breeze from the N and NW in the afternoon.

The Southwest Monsoon generally prevails from June to October. Toward the end of June and through July unsettled weather can be expected. A slight fall of the barometer, after fine weather, frequently indicates the approach of squalls from the WSW.

These squalls usually last a week and are followed by a period of fine weather with NW and SW winds. In September and October strong WSW winds are experienced with dark cloudy weather. Off the SW coast of Palawan it is not unusual, particularly during squalls, for the wind to veer to the WNW and NW and to blow violently. Between squalls the wind frequently shifts to the SE.

Land and sea breezes are prev alent in coastal waters when the prevailing monsoon is weak. Even when the monsoon season is fully developed the winds give way at sundown to a land breeze.

Thunderstorms are frequent near land between May and October. They are accompanied by severe squalls and heavy rain.

Typhoons are not frequent off the W coast of Palawan. Only about 7 percent of the more serious typhoons that affect the Philippine Islands are experienced in this area.

October and November are the months when typhoons are most likely to be experienced. Palawan is considered to be in the typhoon area from December to June.

However, there is little chance of a typhoon passing off this coast, as there are not many typhoons during these months and most of them recurve NE before reaching Palawan.

There are two distinct seasons, one dry in the winter and spring, and the other wet occuring in the summer and autumn. During the wet season (July, August, and September) the average monthly rainfall exceeds 500mm.

During the dry season (January, February, and March) the average monthly rainfall is less than 38mm. The average annual rainfall on the W coast of Palawan averages about 3,051mm. The climate is reported to be hot and humid. Visibility is generally good, fog being rare.

Temperatures are uniformly high, but they seldom exceed 35°C or fall below 18°C. Maximum temperatures occur in April, May, and June. The coolest months are December, January, and February. Relative humidity is comparatively high. The annual average is not more than 80 percent, with minimum values recorded in April.

Tides—Currents.—The tidal currents in the South China Sea set from N to S along the W coast of Palawan and enter the Sulu Sea through Linapacan Strait and Balabac Strait. The force and direction of the prevailing wind are the principal factors influencing the currents off this coast. Off the NW coast of Borneo and in Palawan Passage, between the parallels of 2°N and 11°N, currents may set in any direction throughout the year with rates of up to 1 knot or more.

These currents have caused stranding of vessels on either side of the passage.

During the Northeast Monsoon, the current is variable and seldom runs strong in any direction unless strengthened by strong winds. At the height of this monsoon, a strong NW and W set occurs in the S part of Palawan Strait because of the strong W currents that set through the straits N and S of Balabac Island.

During the Southwest Monsoon, the current sets N and toward the shore. On occasions there is no perceptible current,

and near the shore the current is mostly weak. A SW set may occasionally occur in Palawan Passage.

Tidal currents of a local nature are described with the local features.

Caution.—Parts of the W coast of Palawan and the bank off it have not yet been thoroughly surveyed, and lesser depths may exist on some of the shoals that are charted.

Ships are advised to stay seaward of the 200m curve unless proceeding to an anchorage off this coast and having local knowledge.

Vessels bound for ports in mainland China should use Palawan Passage in preference to the route on the E side of Palawan.

When making Palawan Passage from the SW, during the Northeast Monsoon, a NW set is often experienced resulting in the possible grounding on the various shoals including **Royal Captain Shoal** (9° 01'N., 116° 41'E.).

Visibility may be reduced by heavy rain squalls. The light driving rain of the "collas" is like a mist and reduces visibility. During these squalls, which sometimes last for as much as 10 days off the S coast of Palawan, it is difficult to make the narrowest part of Palawan Passage between Royal Captain Shoal and the shoals to the E because Palawan is usually obscured. At such times it is advisable to pass this shoal during daylight hours.

The area bound by the following coordinates is declared off limits to all ships and watercraft:

a. 11° 37'N, 118° 51'E.
b. 11° 37'N, 119° 10'E.
c. 10° 46'N, 118° 32'E.
d. 10° 46'N, 119° 04'E.

Tankers prior to calling at Matinloc and Nido Marine Terminals offshore Palawan Island, which are situated within the boundaries of the above restricted area, should obtain copies of Port Information and Regulations from:

Philippines-Cities Service, Inc.
P.O. Box 2283, MCC
Makati, Metro Manila 3117
Philippines

Entry is restricted throughout the greater arc of a circle, radius 5 miles, centered from position 11° 49'N, 119° 7'E, where a lighted storage tanker vessel is located.

Palawan Passage

11.2 Palawan Passage (9° 00'N., 117° 00'E.), the alternate route through the S part of the China Sea, is a deep passage between the 200m curve and wide bank which fronts the W coast of Palawan, and the E side of the "Dangerous Ground" which lies about 30 to 50 miles farther W.

This route, indicated on the charts, is recommended for low-powered vessels during the Northeast Monsoon season (October to March). The passage, about 265 miles long with depths over 183m, is entered W of **Libro Point** (11° 25'N., 119° 29'E.) or W of **Cape Melville** (7° 48'N., 117° 00'E.) if heading N, and is the direct route between Sundra Strait and Manila.

The most constricted and dangerous part of Palawan Passage is about 29 miles NNW of **Cape Buliluyan** (8° 20'N., 117° 12'E.) and abeam of Royal Captain Shoal where the passage is 29 miles wide between dangers.

The NE extremity of the danger area that forms the W side of Palawan Passage lies about 108 miles WSW of Libro Point. From this position the E side of the area, which is represented by a dotted line on the charts, trends 40 miles S and then 165 miles SW to a position about 70 miles W of the N extremity of Balabac Island.

Vessels should not enter this area as it has not been examined and is known to contain numerous dangers. The existence of uncharted patches of coral and shoals is likely; the positions of charted banks and shoals cannot be relied upon.

Seahorse Shoal (10° 50'N., 117° 47'E.), the N known danger on the W side of Palawan Passage, is a pear-shaped reef with a least depth of 8.2m at its N end and 11m at its S end. Within the lagoon formed by the curving reef there are depths of 35 to 57m.

Sandy Shoal (11° 02'N., 117° 38'E.) and **Fairie Queen** (10° 38'N., 117° 38'E.), the positions of which may be doubtful, are charted close within the line shown on the charts designating the large danger area.

Carnatic Shoal (10° 06'N., 117° 21'E.) has a depth of 6.4m and lies close within the danger area. Its position is doubtful.

Bombay Shoal (9° 26'N., 116° 55'E.), lying about 58 miles WNW of **Hummock Point** (9° 16'N., 117° 54'E.), consists of a steep-to reef which completely encloses a lagoon. Depths of 29 to 33m, sand bottom, are found in the lagoon. On the reef are several rocks which dry about 0.6m. Madagascar Rock, which dries 0.6m, lies near the NE end of the reef. Two stranded wrecks lie 0.5 mile apart on the NE side of Bombay Shoal. The N wreck has been reported to be breaking up.

There is a tidal range of about 1.2m over Bombay Shoal and the tidal current was observed to set NE on a rising tide.

11.3 Royal Captain Shoal (9° 01'N., 116° 40'E.) lies on the W side of the most constricted part of Palawan Passage. This shoal consists of a narrow, unbroken, and steep-to reef which encloses a lagoon. Numerous coral heads and a few drying rocks are found on the reef.

Observation Rock, which dries about 1.2m, lies on the NW corner of the reef. Depths of 27 to 31m sand and coral, are found in the lagoon. Coral heads exist. There is no entrance channel to the lagoon, but boats can cross the reef at HW under favorable weather conditions. A W set of about 0.75 knot has been experienced around the shoal.

Two stranded wrecks lie on the NW and SW sides of Royal Captain Shoal.

Investigator Northeast Shoal (9° 10'N., 116° 25'E.), which dries, lies about 17 miles WNW of Royal Captain Shoal. The shoal reef encloses a lagoon which is probably accessible to boats at HW.

A rock, whose existence is doubtful, lies 4.5 miles WNW of Investigator Northeast Shoal.

Half Moon Shoal (8° 52'N., 116° 16'E.), lying 63 miles NW of Cape Buliluyan, consists of a belt of coral reef, awash, that forms a lagoon. An inclined rock, 1m high, lies on the E side of the shoal. The lagoon affords good shelter to small craft and has an average depth of about 27m, although there are several coral heads with depths of 0.3 to 5.5m.

The entrance of the lagoon is about 0.1 mile wide, with a depth of about 12.8m, located on the SE side of the reef about 0.4 mile SW of the inclined rock.

Entry during the strength of the Northeast Monsoon would probably be impossible. No anchorage is available off the shoal. There is a tidal rise of 1.2m over Half Moon Shoal.

Directions.—Southbound vessels through Palawan Passage should follow the recommended track line as shown on the charts. This line, which parallels the 200m curve fronting the W coast of Palawan, lies from 20 to 7 miles W of that curve.

Vessels obtaining depths of less than 183m should head for deeper water immediately.

Vessels following the recommended track will pass about 25 miles E of Seahorse Shoal, about 21 miles SE of Carnatic Shoal, about 15 miles SE of Bombay Shoal, and about 11 miles SE of Royal Captain Shoal.

Vessels approaching Palawan Passage from S, if uncertain of the position, can close **Balabac Island** (8° 00'N., 117° 00'E.) to 12 miles, during clear weather, in order to obtain a fix.

During the thickest weather the land is reported seldom totally obscured and is usually well defined between squalls.

The safest part of the 183m bank lies NW of Balabac Island between 8° 05'N and 8° 30'N, with Balabac Peak bearing between 120° and 160°.

When soundings are obtained on the edge of the bank vessels should haul NW and give the 200m curve a berth of 10 miles.

Then the reverse of the directions as given in the preceding paragraph should be followed.

Caution.—All the dangers on the E side of Palawan Passage are contained within the 200m curve that fronts the W coast of Palawan. The curve lies about 31 miles W of Libro Point and trends SW to within 18 miles of the coast in the vicinity of **Mapankal Point** (Pampandugang Point) (8° 57'N., 117° 33'E.).

From this position it continues SW and passes about 23 miles W of Cape Buliluyan. Then it trends S to a position about 18 miles W of **Cape Melville** (7° 48'N., 117° 00'E.).

The 200m curve rises abruptly in many places and there are several depths of less than 7.3m lying close within the curve.

Shoals and other dangers lying within the curve are described with their related features.

Palawan—West Coast

11.4 Libro Point (11° 25'N., 119° 29'E.), the N extremity of Palawan, rises to a height of 145m close SE. The 18.5m curve lies about 0.1 mile N and 0.75 mile W of the point.

A rock, awash, lies 91m N of Libro Point.

Calitan Island (11° 25'N., 119° 28'E.) lies W of the point. A sharp double-edged rock lies on a reef extending 0.2 mile E of the island. The passage between the island and Libro Point is foul. Cabuli Point and Cabuli Island are described with the E coast of Palawan, in paragraph 11.40 and paragraph 11.41, respectively.

Between Libro Point and **Patuyo Point** (11° 21'N., 119° 26'E.), the coast is bold and rocky, with occasional sandy beaches fringed with coral. The 9.1m curve lies about 0.3 mile offshore.

Diapila Bay is entered 1 mile SSE of Calitan Island; it is encumbered by shoals and drying rocks.

A rock, awash, lies about 0.3 mile W of the N entrance point.

Diapila Island, 66m high, lies close within the 20m curve, 1 mile SW of the S entrance point of Diapila Bay.

Base Bay is entered between Patuyo Point and a point 4 miles NE. A 7.6m patch lies in the bay 3.25 miles NE of Patuyo Point, with a 10.4m patch, 0.5 mile WSW of it.

Barotoan Bay (11° 20'N., 119° 27'E.) is formed between steep bluffs, with a sandy beach at its head. A rock, 2.4m high, lies off the W entrance point. A grass-covered plain extending several miles SE from the head of the bay is backed by mountain ranges leading N to Libro Point. The plain is bound S and SW by mountain ranges leading from Patuyo Point.

Patuyo Point (11° 21'N., 119° 26'E.) is the NW end of a steep headland with cliffy shores, which rises to a height of 159m, 0.75 mile S.

Lalutaya Island, 122m high, lies 1.25 miles NW of Patuyo Point. The island is steep-to except on its W side where there is a bay with a depth of 5m, and on the E side where coral reefs extend 0.2 mile offshore. A shoal, with a depth of 0.9m, lies 0.5 mile NW of the NE extremity of the island.

Crawford Point (11° 19'N., 119° 25'E.) is a narrow headland, 49m high, located 2.5 miles SSW of Patuyo Point. The intervening coast is a sandy beach backed by heavily wooded hills. The 20m curve lies 0.25 mile off this point. A rocky islet, 34m high, lies 0.3 mile N of the point. Bury Islet, 18.3m high, lies 0.9 mile NNW of Crawford Point; a rock, 21m high, lies close W of the islet.

A peak, 366m high, stands 4.75 miles ENE of Crawford Point. From this peak a ridge extends 3.5 miles N to **North Hill** (11° 24'N., 119° 30'E.) and another hill, 294m high, near the W side of the island. Both hills are conspicuous.

Emmit Point (11° 15'N., 119° 25'E.) consists of steep bluffs rising abruptly from the shore and backed by wooded hills. A distinctive conical hill rises 1 mile NNE of the point. The central mountain range of Palawan rises to its highest elevation, 658m, about 4 miles E of Emmit Point.

The coast between Crawford Point and Emmit Point is steep and rugged, with hills rising abruptly from the shore. Depths of less than 9m are found up to 0.25 mile offshore.

11.5 Ipil Point (11° 11'N., 119° 22'E.) is the sharp SW extremity of a rugged headland rising steeply from shore. Between Emmit Point and Ipil Point, there is a wide, level valley that lies between the range of hills extending SE from Emmit Point and the steep, rugged range that extends W from **Mount Ynantagung** (11° 10'N., 119° 27'E.) to Mount Bubulugan, located 2 miles E of Ipil Point.

The coast between the two points is fringed by a partly drying reef extending 0.25 mile offshore in places. The 10m curve lies up to 0.75 mile offshore, and there are numerous dangers lying within the curve. Also, there are several shoal patches, with depths less than 11m, lying within 1.5 miles of the coast.

Bacuit (El Nido) (11° 11'N., 119° 23'E.) (World Port Index No. 59310), the most important town on the W coast of Palawan, is situated close E of the peninsula of which Ipil Point is the SW extremity. The town situated at the head of a small bay which is fringed by a drying reef and fronted by foul ground as far as 0.5 mile off its head.

A stone causeway, its outer end in ruins, is located at the W end of town where a church is a prominent landmark.

Anchorage can be taken 1 mile N of town, in depths of 15 to 16.5m, mud, protected from all but N winds.

Occasional variable squalls of hurricane force blow through the gaps in the highlands making the anchorage untenable.

Vessels approach the anchorage from W via the narrow passage between the headland and **Cadlao Island** (11° 13'N., 119° 22'E.). From the N, the approach lies E and SE of this island.

Off-lying Islands

11.6 Caverna Island (11° 17'N., 119° 21'E.) is the farthest N island of a group of high and rugged islands of limestone formation lying N of Ipil Point. A pinnacle rock, lying close N of the island, is conspicuous from E and W. A reef, awash, extends 0.2 mile S of the island.

Cauayan Island (11° 16'N., 119° 21'E.) has two prominent, high peaks with the terrain between them dropping almost to sea level. High cliffs forming the shoreline are deeply underscored by sea action. The navigable channel between Cauayan and Cadlao Islands is divided into two passages by an islet. The S passage has a least depth of 12.8m.

Cadlao Island (11° 13'N., 119° 22'E.) has a table-topped summit- which is conspicuous from the W.

The Loggerheads, two high peaks rising SE of the summit, drop almost vertically. A spit, with a depth of 4.9m, extends 0.1 mile from the SE end of the island.

A deep channel, about 0.3 mile wide, lies between the spit and the headland of Ipil Point.

The E and W points of the island are reported to be conspicuous. There are sandy beaches at the heads of the bays. Most of Cadlao Island is fringed by coral reef.

11.7 Dilumacad Island (11° 12'N., 119° 20'E.) has a conspicuous group of needle peaks near its S end. The W coast of the island consists of overhanging cliffs; the E coast is sandy beach fronted by a spit and fringing reefs.

The channel between the island and the SW end of Cadlao Island is deep.

Anchorage can be taken, sheltered from NE winds, in depths of 29 to 36m, S of Cadlao Island and E of Dilumacad Island.

There is good anchorage protected from SW winds, near **Mitre Island** (11° 14'N., 119° 22'E.), in 31m, mud.

Additional anchorage can be taken, in depths of 16 to 22m, close E of Abrupt Point.

Tapiutan Island (11° 13'N., 119° 16'E.) is the NW island of a group of islands which form the W side of the approach to Bacuit Bay; they extend about 7.75 miles NNW and 7 miles W from a position about 1.5 miles N of Custodio Point. The group is prominent due to their limestone formation and their rugged appearance. The sides of the islands consist of bare, vertical cliffs of various colors. The bases of the cliffs have been eroded by the sea. The summits of the islands consist of small clusters of needle peaks.

Matinloc Island (11° 11'N., 119° 17'E.) consists of a narrow ridge of barren limestone almost divided into three parts by deep gaps. Mount Horn, prominent near the middle of the island, resembles a horn when seen from N or S.

Ilog Bay, on the E side of the island beneath Mount Horn, affords shelter to small vessels having local knowledge during the Southwest Monsoon (May to September). An islet lies near the S side of the bay entrance.

Tapiutan Strait (11° 12'N., 119° 16'E.), 0.1 mile wide, with depths of 27 to 38m, separates the islands of Matinloc and Tapiutan.

Inambuyod Island (11° 12'N., 119° 18'E.) is separated from Matinloc by a deep channel. Inambuyod Island, from a distance, appears like a large turtle in the water with its head facing N. Landing can be effected along sandy beaches on the W side of the island. A high rock and an islet lie 0.1 mile N and 1 mile N, respectively, of Inambuyod Island.

11.8 Miniloc Island (11° 09'N., 119° 19'E.) is high, with coasts consisting of cliffy heads and steep crags. The S and E sides of Miniloc are indented by several coves.

A NE cove is deep, but fronted by a reef. Small, high islets lie off the NW and E sides of the island, and landing can be effected on the S and W sides.

There are several small islands lying between Miniloc Island and Custodio Point. These islands consist of **Paglugaban** (11° 08'N., 119° 19'E.), Entalula, Popolcan, **Jip Rocks** (11° 07'N., 119° 19'E.), **Guintungauan** (11° 07'N., 119° 18'E.), and Pangulasian Island.

Guntao Islands (11° 08'N., 119° 15'E.), two in number, have densely wooded tops and bare slopes. The islands are connected by a coral reef, bare at LW.

Destacado Rocks (11° 07'N., 119° 13'E.) are a group of rocks, awash, lying on a small reef. The rocks have the appearance of two boats. Other reefs lie within 1 mile N and 0.25 mile SW of the rocks.

Bacuit Bay (11° 07'N., 119° 22'E.) is entered between Ipil Point and **Custodio Point** (11° 06'N., 119° 19'E.), and extends about 7.5 miles SSE.

The bay is protected W by a high, wooded peninsula terminating at Custodio Point. Rugged, limestone islands front the bay and a mountain range dominates the E shore.

Depths of 14.6 to 37m exist throughout the bay, with deeper water off the bay entrance and between the off-lying islands. The shore reef extends as far as 0.25 mile off the W side of the bay and 0.5 mile off the head of the bay. There are many detached reefs and shoals within 0.5 mile of the coast. The many bights indenting the shores of Bacuit Bay are foul and fronted by mangroves. Islands and rocks within the bay are mostly high and sheer.

Caution.—Dangers are numerous throughout the bay. Only those in or adjacent to the main channel are described. A 13.1m patch lies in the middle of the entrance to Bacuit Bay, 1.75 miles SW of Ipil Point.

A 14.6m coral patch lies about 0.75 mile E of **Entalula Island** (11° 08'N., 119° 20'E.). A reef, with a depth of 3.6m, and a shoal, with a depth of 3.5m, lie 1 mile S and SSE, respectively, of Ipil Point.

A group of shoals, with a least depth of 9.1m, lies up to 1 mile NW of **Inabuyatan Island** (11° 07'N., 119° 23'E.).

A dangerous steep-to coral patch (11° 07'N., 119° 22'E.), depth 6.9m, lies 1.25 miles W of Inabuyatan Island.

11.9 Lagen Island (11°05'N., 119°24'E.), the largest and highest island in the bay, has two summits with a deep gap between them. The shores are sandy beaches alternating with sheer cliffs.

Between the island and **Malpacao Island** (11°06'N., 119°24'E.), 0.5 mile NE, is a channel with depths of 14.8 to 22m, clear of dangers. Malpacao Island is a prominent, high limestone formation. It appears from the offing as a double island. Drying reefs lie SE and E of the S end of the island. The channel between the island and the point E is foul.

Coast Hill (11°05'N., 119°20'E.), **Mount Maateg** (11°01'N., 119°23'E.), **Shark Fin Peak** (11°04'N., 119°28'E.), and the high peak close NE of Ipil Point are all excellent landmarks approaching Bacuit Bay.

Sheltered anchorage can be taken, in depths of 11 to 13m, close SE of Malpacao Island, clear of the reefs in the vicinity.

Small vessels with local knowledge can anchor in Corongcorong Bay, close with Ipil Point, and communicate with the town of El Nido while being protected from N winds.

Additional anchorage can be taken in the area SE of **Pinsail Island** (11°05'N., 119°23'E.) and **Ninepin Island** (11°05'N., 119°23'E.), and S of Lagen Island, in depths of 16.5 to 18.3m, but is subject to sudden wind changes.

Vessels approaching Bacuit Bay from S should use the passage between **Paglugaban Island** (11°08'N., 119°19'E.) and Entalula Island, 0.6 mile E.

From N, the best approach is between **Inambuyod Island** (11°12'N., 119°18'E.) and **Dilumacad Island** (11°12'N., 119°20'E.). If proceeding to the anchorage SE of Malpacao Island, avoid the 7m coral patch, 1.25 miles W of Inabuyatan Island, and pass between Malpacao Island and Lagen Island.

If proceeding to the anchorage SE of Pinsail Island, pass fairly close to the W side of Lagen Island and then between the island and Ninepin Island.

Between Custodio Point and **Signal Head** (11°02'N., 119°19'E.), 4.25 miles S, the coast is bold and rocky with several reddish-colored landslides. The mountain ranges running down to these points are steep and densely wooded. Ragged Island, 18.3m high, lies close off-shore, 3 miles S of Custodio Point.

Difficult Point (11°03'N., 119°20'E.) lies about 0.6 mile SE of Ragged Island, and Black Rock Point lies about 0.75 mile SSE of Difficult Point. Together these points form the entrance to a narrow inlet which recedes about 1 mile NE.

There are depths from 18.3m in the entrance of the inlet to 6.7m at its head. A patch, with a depth of 0.9m, lies in the middle of the inlet 0.25 mile from its head.

11.10 Port Cataaba (11°01'N., 119°21'E.) is a bay entered between Black Rock Point and Signal Head, 0.5 mile SW. The bay affords good shelter for small vessels and is free from dangerous winds blowing off the mountains.

The peninsulas forming the bay are high and densely wooded, while the shores are alternately rocky points and small coves backed by mangrove swamps.

The head of the bay dries, but there are depths of up to 27m in the outer part. A spit, with an islet on its NE end, lies about 0.5 mile within the W entrance point of the bay.

Pin Point (11°01'N., 119°20'E.), 1.25 miles SSE of Signal Head, is prominent as is Beehive Head, 0.5 mile S of Pin Point. White Point Island lies on the drying coastal reef close S of Pin Point.

Anchorage can be taken E of Pin Point, where there are depths of 9.1 to 12.8m, mud. The anchorage is reported to be free of dangerous winds that funnel through the mountain passes.

The entrance to Port Cataaba should be approached either between **Tent Island** (11°04'N., 119°18'E.) and Saddle Island, 1.25 miles S or E of both of these islands.

A mid-channel course should be steered, avoiding the dangers which extend up to 0.2 mile E of Saddle Island.

Dangers exist in the approach to Port Cataaba and Endeavor Strait. Tent Island, steep-sided, lies on a drying reef 2.5 miles SSW of Custodio Point. A below-water reef extends 0.3 mile N of the island; it has several above-water rocks on it.

Saddle Island (11°03'N., 119°18'E.) has two high rounded hills, the one farthest S is prominent. The island is fringed by above-water and below-water reefs. Camago Island lies on the reef 0.25 mile S of Saddle Island; the reef extends about 0.2 mile S of the island. Needle Rocks, lies in the N entrance to Endeavor Strait, about 0.9 mile SW of Signal Head.

There are depths of 9 to 13m between Needle Rocks, and a drying rock about 0.3 mile N. Anato Island, 59m high, about 0.1 mile S of Needle Rocks, is separated from the rocks by a passage 7m deep.

Tuluran Island (10°59'N., 119°17'E.), separated from the mainland by Endeavor Strait, is about 4.5 miles long in a N to S direction and is about 2.5 miles wide; it is the largest island fronting the W coast of Palawan.

Peaked Point (11°01'N., 119°16'E.) is the NW extremity of Tuluran. Peaked Island lies 0.1 mile NW of the point. Rocks, awash, lie 0.1 mile NW of the island. The channel between the island and point is 3.7m deep.

North Tuluran Peak and South Tuluran Peak rise conspicuously near the middle of Tuluran.

Thumb Peak, with a table-topped summit, rises 0.75 mile NW of **Pillar Point** (10°57'N., 119°18'E.), the SE extremity of the island.

11.11 Between Signal Head and **Cape Ross** (10°56'N., 119°13'E.), 8.5 miles SW, the coast is indented by Malampaya Sound, one of the best natural harbors in the Philippine Islands. It extends about 20 miles SE and near its head it is only 2.5 miles from the E coast of Palawan.

The sound, which affords safe anchorage for a large number of deep draft vessels, is divided into two parts by the headlands projecting from the shore and by several islands.

The shores of the sound are generally steep and densely wooded, rising abruptly from a beach intersected by many bold headlands, rocky points and small areas of mangrove swamp.

Tuluran Island, the largest island fronting the W coast of Palawan, lies in the outer entrance of Malampaya Sound.

Worcester Strait, the main channel, leads SW of the island and Endeavor Strait leads E of the island which is rugged and densely wooded.

Pyramid Rocks (11°01'N., 119°15'E.) lie about 1 mile W of Peaked Point, the NW extremity of Tuluran Island.

A detached coral rock, with a depth of 1.2m, lies about 0.2 mile NE of the highest rock.

Endeavor Strait (10° 59'N., 119° 18'E.) is approached from N between Signal Head and Peaked Point. The strait has a least depth of 8.7m in the fairway, is about 5 miles long, and has a least width of 91m about 1.7 miles SSW of Signal Head. The mangrove lined shores of the strait are fronted by above and below-water coral reefs for 0.1 mile. The W entrance point of the strait lies 1 mile SE of **Conical Head** (11° 01'N., 119° 17'E.). A bank extending 2.5 miles N from this point contains Anato Island and Saddle Island.

Relinquish Head (11° 00'N., 119° 18'E.) and Exertion Point, about 1.2 miles S of the head, form a bay. A group of drying rocks lies in the middle of the bay entrance.

Good anchorage can be taken in the bay, in depths of 18 to 22m, mud.

Liminangcong (11° 00'N., 119° 18'E.), a small town, is situated on the E side of the strait close E of Chase Head, where the strait is most constricted.

A spit, with a depth of 5m, extends 0.1 mile NW of Chase Head. The least depth in the strait fairway, lies 0.4 mile S of Chase Head.

Good anchorage can be taken, in a depth of 12.8m, about 0.2 mile N of town.

Endeavor Point (10° 57'N., 119° 19'E.) is the SE entrance point of Endeavor Strait. A 2.3m and 3.2m patch lie 0.2 mile N and 0.5 mile NE of the point.

Pirates Hold, a sheltered cove, is entered between **Bando Point** (10° 57'N., 119° 19'E.) and Endeavor Point.

Vessels proceeding S through the strait should keep in mid-channel. Caution should be exercised when rounding Chase Head to avoid being set on the spit by tidal currents which are strong at times.

11.12 Worcester Strait (10° 58'N., 119° 15'E.), the main entrance to Malampaya Sound, lies between Tuluran Island and **Capoas Peninsula** (10° 50'N., 119° 17'E.). The strait, nearly 0.75 mile wide, has depths over 37m.

Worcester Strait is approached between **Diente Point** (10° 57'N., 119° 13'E.) and Peaked Point. The terrain S of the latter point is bold, precipitous, and features Tuluran Point, and **Bold Head** (10° 59'N., 119° 16'E.).

White Round Island (10° 59'N., 119° 15'E.), steep-to, lies 1.25 miles WNW of Bold Head. It is a useful landmark when approaching the strait from NW.

Diente Shoal (10° 58'N., 119° 13'E.), with a depth of 5m, lies almost 1 mile N of Diente Point. The channel between is deep and clear of dangers.

Notch Island (10° 58'N., 119° 14'E.), lying on a drying reef 0.6 mile ENE of Diente Point, is conspicuous from offshore. Above-water rocks lie 0.1 mile N of the island.

Several dangers lying N and E of Notch Island include Pillar Rock, Entrance Rock, Largon Island, Largon Rock, and Cone Island.

These charted dangers lie on several extensive reefs and foul ground on the SW side of the entrance to Worcester Strait.

Tidal currents in the strait are strong. In the sound the tidal range is 1.1m. With contrary winds there are heavy tide rips in the strait.

Bolalo Bay (10° 56'N., 119° 15'E.), entered S of Cone Island and W of **Parmidiaran Point** (10° 57'N., 119° 16'E.), is deep and clear of dangers, but in stormy weather is open to wind squalls from the encircling hills.

The shores of the bay consist mainly of coral and mangroves. Drying reefs extend 0.5 mile or more off the head of the bay which is separated from **Inlulutoc Bay** (10° 54'N., 119° 14'E.) by a narrow isthmus.

Anchorage can be taken, in 29 to 42m, mud, within the entrance of the bay.

Vessels approaching Bolalo Bay should pass either E or W of Largon Island and Cone Island; the former should be given a wide berth.

Vessels entering Worcester Strait should favor the Tuluran Island side of the channel with the N extremity of **Malapina Island** (10° 56'N., 119° 19'E.) bearing 122° leading through the strait, passing NE of Entrance Rock and Largon Rock and SW of the shoal which lies 0.9 mile NE of Largon Island.

Malampaya Sound is divided into Outer and Inner Sounds which are connected by an inner strait. The sound is entered from N via Endeavor and Worcester Straits in the vicinity of Lookout, Pillar, and Endeavor Points.

Because of the numerous islets, rocks, and reefs in the strait connecting the two sounds, the navigable passage is reduced to a width of about 0.2 mile.

11.13 The W side of Outer Sound, between Lookout Point and **Pugguiauan Point** (10° 53'N., 119° 18'E.), 3.75 miles SSE, is indented by three bays, all of which afford safe anchorages.

Pirate Bay (10° 56'N., 119° 17'E.), the northernmost bay of the three bays, is entered between Lookout Point and Slip Point, the N extremity of **Tenabian Island** (10° 55'N., 119° 17'E.). There are depths over 18.3m in the bay.

Anchorage can be taken, in depths of 27m, mud. A constricted passage, with a least depth of 11m, separates Tenabian Island from the mainland. A reef, with a depth of 1.2m, extends 0.2 mile NW of Slip Point.

Taitai Bay (10° 54'N., 119° 17'E.) is entered between Taitai Island and **Bullock Head** (10° 54'N., 119° 18'E.).

The head of the bay is divided into two mangrove-fringed coves by Middle Point.

Huron Rock (10° 54'N., 119° 18'E.), with a depth of 5m, lies in the approach to Taitai Bay and close W of the fairway to Inner Sound.

Anchorage can be taken in Taitai Bay, in depths of 18 to 20m, mud. On entering the bay from N, round Taitai Island within 0.5 mile. From S, round Bullock Head within 0.5 mile to avoid Huron Rock.

Turung Bay (10°53'N., 119°17'E.), with general depths of 9.1 to 18.3m, is entered between Bullock Head and Pugguiauan Point. Turung Island, on the N side of the entrance, is encircled by shoals and has a drying rock lying 91m NW, and a detached 5m shoal lies 0.2 mile NE, respectively, of its N end. A spit, with depths less than 8.5m, extends 0.2 mile NE from Pugguiauan Point.

Anchorage can be taken in the middle of Turung Bay, in depths of 11 to 15m, mud.

11.14 The E side of Outer Sound, between Endeavor Point and **Calabuctung Point** (10° 54'N., 119° 20'E.), 3.25 miles SSE, is indented by **Northeast Bay** (10° 56'N., 119° 21'E.).

Shoals extend up to 0.5 mile from the shores of the bay which are fringed by mangroves. The bay is encumbered by islands and shoals. Malapina Island lies in the entrance of the bay. Two reefs, with a least depth of 11.4m, lie between 0.5 mile and 1 mile SE of the island.

Boat Rock (10° 55'N., 119° 20'E.), with a depth of 0.3m, lies near the middle of a shoal 1.25 miles E of Malapina Island. Drying rocks lie at the N and S ends of the shoal.

Anchorage is not recommended in Northeast Bay for deep-draft vessels because of the swell which sometimes sets in from Worcester Strait.

Small vessels can take sheltered anchorage in the inner part of the bay.

11.15 Binaluan (10° 56'N., 119° 21'E.) (World Port Index No. 59300), a small village with a sawmill situated in the SE part of Northeast Bay, is a temporary base for some of the fishing fleet operating in Malampaya Sound.

The inner strait, separating Malampaya Outer and Inner Sounds, is 2 miles wide between Pugguiauan Point and Calabuctung Point. The strait is encumbered by shoals and islands, between which there are several navigable channels.

The W side of inner strait, between Puggiuauan Point and **Alcade Point** (10° 49'N., 119° 21'E.), 4.5 miles SE, is indented by Alligator Bay and Malipu Bay.

Mount Capoas (10° 48'N., 119° 17'E.) is a dominating feature.

Alligator Bay (10° 51'N., 119° 17'E.) is entered between **Green Head** (10° 52'N., 119° 18'E.), 0.45 mile SE of Puggiuauan Point, and **Balulu Point** (10° 51'N., 119° 19'E.). Palcocotan Island lies about 0.3 mile E of Green Head, and Johnstone Point marks the S extremity of the head.

The bay affords excellent shelter for vessels. Several islands lie just outside the bay entrance and along its shores.

There are numerous dangers. Vessels should keep at least 0.25 mile off salient points and the shores of the bay.

A shoal, with a least depth of 4.1m, lies almost 0.25 mile SSE of Johnstone Point. There are depths of 11 to 16.5m and 11 to 7.3m in the N and S parts of the bay.

Alligator Island (10° 51'N., 119° 18'E.), wooded, lies on the S side of the bay. A prominent white rock lies 137m E of the NE end of the island. Durangan Island lies in the navigable channel through the strait leading to Inner Sound, about 1 mile NE of Alligator Island.

Anchorage can be taken in the middle of the bay, between Johnstone Point and Alligator Island, in depths of 15 to 16m, mud.

11.16 Malipu Bay (10° 50'N., 119° 20'E.) is entered between Balulu Point and Alcade Point. It is separated from Alligator Bay by a narrow ridge of hills. There are depths of 9.1 to 18.3m in the outer part of the bay and 7.5 to 8.2m in the E part.

Bartoc Island (10° 51'N., 119° 20'E.), 0.75 mile E of Balulu Point, and Malaoton Island, 0.75 mile E of Bartoc Island, lie in the approach to the bay. Foul ground encircles both islands.

Chinicaran Island (10° 50'N., 119° 20'E.), the largest in the bay, is separated from the shore by a narrow passage with a least depth of 3.2m.

Damao Island (10° 50'N., 119° 20'E.), with Micota Island lying close SE, are separated from a peninsula of the mainland by constricted Damao Channel. The channel, encumbered with rocks and islets, has a depth of 9.1m.

Cinaran Bay (10° 49'N., 119° 20'E.), lying at the head of Malipu Bay, is fronted by a drying mud flat and depths of 5.5m.

Anchorage can be taken in the outer part of Malipu Bay, about midway between Chinicaran Island and Malaoton Island, in depths of 11 to 14.6m, mud. Smaller vessels can find more sheltered anchorage E of Chinicaran in a depth of 7.3m.

The E side of the inner strait between Calabuctung Point and **Balauan Point** (10° 52'N., 119° 22'E.), 3 miles SE, is irregular and fronted by many islands, rocks and shoals. The inner strait channel leads W and SW of the islands.

Tacbolo Island (10° 53'N., 119° 19'E.), thickly wooded and partly cultivated, lies in the entrance of the strait. Wedge Head is the prominent bluff on the NW extremity of the island.

The two small Calabuctung islands lie between Wedge Head and Calabuctung Point.

Passage Island (10° 52'N., 119° 20'E.) forms the SE side of Tacbolo Passage; Tacbolo Island forms the NW side of the passage. The passage is 137m wide and has a depth of 8.7m.

A constricted shoal channel separates the E end of Passage Island from the NW side of the peninsula that forms **Passage Point** (10° 52'N., 119° 21'E.).

11.17 Passage Island Bay (10° 53'N., 119° 21'E.) is entered between Wedge Head and the Calabuctung Islands. Depths of 9.1 to 18.3m exist in this sheltered bay. A 6.4m coral patch lies 0.2 mile N of Cliff Point, the NE extremity of Passage Island. Shoals lie NE of this patch.

There are several navigable channels between the shoals and islands that are used with local knowledge.

Anchorage, sheltered, can be taken near the middle of Passage Island Bay, in depths of 13 to 18m, mud.

Directions.—Vessels approaching Malampaya Inner Sound from N steer a course of 159° for **Wedge Head** (10° 53'N., 119° 19'E.), until the N extremities of the Calabuctung Islands are aligned 105° .

This alignment leads E of **Huron Rock** (10° 54'N., 119° 18'E.), steep-to with a depth of 4.9m. The course is then shaped to pass E or W of Palcocotan Island and Durangan Island.

When in transit of the channel E of Palcocotan Island, keep on the W side of the channel between Passage Island and Durangan Island, thus avoiding the dangers SW of Passage Island. Durangan Island should be passed at least 0.1 mile distant. Pass between Malaoton and Ibelbel.

An alternate route can be taken by passing W of Palcocotan Island and Durangan Island, in mid-channel between Balulu Point and Calonhogon Island, S of Bartoc Island and Gull Rock, and N of Peaked Island.

Caution.—Dangers W and SW of Passage Island are best seen on the chart. These dangers include **Flat Rock,** (10° 52'N., 119° 19'E.), above-water, lying on a spit extending about 0.25 mile W of Passage Island. Eniaran Island lies on the same spit. A 4.6m patch lies in the channel 0.15 mile S of Flat Rock. Cansea Rock, drying, and Balolo Rock, above-water, are to be avoided in transit of the channel.

Between Passage Point and Balauan Point there are several off-lying islands fringed by rocky shoals.

11.18 Malampaya Inner Sound (10° 50'N., 119° 23'E.) is entered between **Alcade Point** (10° 49'N., 119° 21'E.) and **Balauan Point** (10° 52'N., 119° 22'E.).

The shores of the sound are indented by coves and bights that afford shelter to small craft.

Several rivers empty into the various bights causing shallow, muddy depths of less than 5.5m in the sound between **Cliff Point** (10° 48'N., 119° 21'E.) and **Rocket Point** (10° 52'N., 119° 23'E.), 4 miles NNE.

The outer part of Inner Sound has depths of 9.1 to 16.5m. It is free of dangers except for **Coloma Rock** (10° 50'N., 119° 24'E.), which lies in the middle of the bay, with a depth of 0.6m.

Other inshore dangers may be avoided by keeping at least about 0.25 mile off the islands and points. The 10m curve lies close NE of Alcade Point and the 5.5m curve lies about 0.25 mile NE of **Cap Rock** (10° 48'N., 119° 23'E.).

Anchorage for large vessels can be taken anywhere in the outer part of Inner Sound, taking care to avoid the vicinity of Coloma Rock. Many of the bays and coves afford shelter to small craft.

A charted restricted area lies about 10 miles offshore, in the approaches to Malampaya Sound, and is bound by lines joining the following positions: 10° 46'N, 118° 32'E; 10° 46'N, 119° 04'E; 11° 37'N, 119° 10'E; and 11° 37'N, 118° 51'E.

South Nido Oilfield, consisting of two production platforms, storage vessel, and submarine pipeline lies within this area and is centered 27.5 miles W of Tuluran Island. A radio beacon transmits from the storage vessel and fog signals are sounded by the SW platform.

Cadlao Oilfield also lies within the prohibited area and is centered 30 miles NW of Tuluran Island. This field consists of three production platforms and an SBM, from which lights are shown, connected by submarine pipelines. A storage tanker is permanently moored to the SBM; a tug is available to assist with berthing. A second lighted SBM (11° 20'N., 118° 59'N.) is moored 7 miles S of the production platforms.

West Linapacan Oil Terminal, consist of a production and storage vessel the FPSO II, moored to an SPM by a stern yoke. Lights are shown from the vessel. There is no desnigated anchorage; waiting vessels should lie off about 5 miles W of the terminal.

A lighted storage tanker is located in approximately 11° 49'N, 119° 7'E. Entry is restricted throughout the greater arc of a circle, radius 5 miles, centered from the tanker's position.

West Coast—Cape Ross to Northwest Head

11.19 Cape Ross (10° 57'N., 119° 13'E.), the NW extremity of Capoas Peninsula, is a prominent, steep-to headland. A narrow coral reef fringes the cape, and the 20m curve lies about 0.1 mile offshore.

Between Cape Ross and Northwest Head, about 55 miles SSW, the coast is indented by many bays which provide sheltered anchorage from NE winds.

The 20m curve lies up to 2.5 miles off this sector of the coast, and the 200m curve lies up to 35 miles offshore. There are numerous isolated shoal patches, with depths of 4.8 to 16.4m, charted in this area.

Between Cape Ross and **Emergency Point** (10° 46'N., 119° 16'E.), about 11 miles SSE, the coast is rugged, irregular, and is formed by the W side of Capoas Peninsula.

The peninsula is formed by mountain ranges with short spurs extending to the coast forming rocky points.

Mount Capoas (10° 48'N., 119° 17'E.), a landmark on the peninsula about 9 miles SSE of Cape Ross, has a high and a low sharp nipple on its W shoulder and a considerable landslide on its W face.

When seen from the S it appears to be table-topped with steep sides. There is a conspicuous waterfall on the N side of the mountain.

Inlulutoc Bay (10° 54'N., 119° 14'E.) is entered between **Wreck Head** (10° 54'N., 119° 13'E.), a bold, rocky head, and Inlulutoc Head, about 1.8 miles SSE.

Entrance to the bay may be identified by **Saddle Hill** (10° 55'N., 119° 14'E.), 1.5 miles NE of Wreck Head, and Chinongab Peak, about 2 miles farther NE. Chinongab Peak is made prominent by a sharp ridge.

The shores of the bay are reported to be fringed by visible coral reefs. Depths of 18.3m existing as far as 0.5 mile offshore contain many dangers. A 12.8m coral patch lies in the center of the bay.

Anchorage, in depths of 27 to 29m, mud, can be taken with offshore winds in the entrance to a cove between Anchorage Islet, on the N side of the bay, and Teodore Point, about 0.5 mile WNW.

The bay affords good shelter during the Northeast Monsoon (October to March).

Tanghilahan Bay (10° 52'N., 119° 13'E.) is entered between Inlulutoc Head and Cape Capoas, a bold projecting headland with two peaks located about 1.5 miles SW.

The inner part of the bay is encumbered with reefs and shoals. Above-water rocks lie in the S part of the bay which has depths over 18.3m.

Enterprise Point (10° 51'N., 119° 13'E.), a steep cliffy headland, is the SW prong of Cape Capoas. Between Enterprise Point and Cotteral Point, 3.75 miles SE, the coast is indented by three small open bays. The shores of the bays are reef-fringed, and are suitable for small craft only.

White Islet, 119m high, steep and conical in shape, lies 1.75 miles SE of Enterprise Point; it is connected to the coast on its E side by a drying reef.

An islet and an above-water rock lie about 0.5 mile W of White Islet.

11.20 Menapla Cove (10° 49'N., 119° 16'E.), entered between Grave Point and Cotteral Point, 1.5 miles SSE, affords shelter from NE winds. A reef, awash in places, extends 0.5 mile SW from a cliff at the head of the bay.

Anchorage, sheltered from the Northeast Monsoon, can be taken in the outer part of the cove, in depths of 9 to 18.3m.

Binga Bay is entered between Emergency Point, 3 miles SSE of Cotteral Point, and Binga Point, 3.25 miles SE. The land rises to a height of 188m close NE of Emergency Point. An island lies on a rocky, drying reef, about 1.25 miles E of Emergency Point. The island lies inside the 20m curve.

Anchorage, sheltered from NE winds, can be taken about 2 miles E of Emergency Point, in depths of 13 to 18.3m, mud.

Small vessels anchor, in 7.3m, about 0.75 mile SE of Binga Point. The village of Tor lies 0.5 mile N of this anchorage.

Imuruan Bay (10° 40'N., 119° 15'E.) is entered between Emergency Point and Pagdanan Point, 13.25 miles SSW.

Amalingat Point lies 16 miles farther SW. The bay is fully exposed to W and NW winds. Binga Bay lies close within the N entrance of this bay.

The coast from Emergency Point to Binga Point is rocky; a sandy beach extends 3 miles farther S. From the S end of the sandy beach, the coast is bold and rocky from 2.5 miles. The 20m curve lies up to 2 miles off the shore of Imuruan Bay, but lies as close as 0.1 mile off Emergency Point and 0.4 mile off Bullock Point.

Wedge Island (10° 44'N., 119° 12'E.), 68m high, lies in the entrance to Imuruan Bay, 4.75 miles SW of Emergency Point. A bank, with depths of less than 9m, extends 0.1 mile S and E from the island.

Bay Islands, comprised of Imuruan Island, 158m high, and Lampinigan Island, 86m high, are located 4.25 miles SSE of Emergency Point. A reef extends 0.6 mile E from Imuruan Island, and a channel 0.7 mile wide, with a least depth of 7.3m, lies between this reef and the coastal reef.

Coral shoals, with depths of 7.3m and 9.1m, lie 0.4 mile SW and 0.4 mile SE, respectively, of Imuruan Island.

A narrow channel, with a least depth of 6.7m, separates the two Bay Islands.

A point of land, located 4.25 miles S of Imuruan Island, rises to a height of 121m about 0.2 mile inland; a waterfall marks this height.

11.21 Rocky Islet (10° 36'N., 119° 19'E.), 15.8m high, lies close off the coast 1 mile SSE of the above point.

Islet Head is located 1.5 miles SSW of Rocky Islet; it rises to a height of 48m. The coast SSW of Islet Head is heavily wooded.

A drying rock lies 0.75 mile SW of Bokbok Point, about 0.4 mile offshore.

Bullock Point (10° 33'N., 119° 15'E.), a narrow rocky headland, is located 4.75 miles SW of Bokbok Point. A shoal, with a depth of 2.1m, lies about midway between these two points. Below-water rocks lie close off Bullock Point.

Pagdanan Point (10° 33'N., 119° 14'E.), 0.75 mile SW of Bullock Point, is the extremity of a reddish colored peninsula of the mainland, 143m high. An islet, 14m high, lies near the outer end of a foul spit which lies 0.4 mile NW from the point.

Pagdanan Bay (10° 31'N., 119° 15'E.) is entered between Pagdanan Point and Milner Head, the NE extremity of Cacnipa Island; this is a common entrance with Port Barton. The bay affords shelter from NE winds, but with winds from SW to NW, a heavy swell is experienced.

The sandy beach lying at the head of Pagdanan Bay is fringed by above and below-water reefs which extend 1 mile offshore. Double Island, nearly connected to shore at LW, lies near the W end of the reefs. Depths of at least 18.3m exist in the outer bay. A range of mountains rise to a height of 703m, 4 miles E of the head of the bay.

11.22 Boayan Island (10° 35'N., 119° 09'E.) is the largest of a group of islands that extend WNW from Pagdanan Point. Boayan is densely wooded and lies in the entrance to Pagdanan Bay, dividing it into two channels. Another group of islands extend NW from **Caramatan Point** (10° 27'N., 119° 11'E.).

Saddle Island, 66m high, lies 0.5 mile SSW of the SW extremity of Boayan Island in the outer entrance to Pagdanan Bay. Royalist Shoal, with a depth of 4.6m, lies 0.8 mile SE of Saddle Island.

Isthmus Cone (10° 31'N., 119° 08'E.), the NW extremity of Albaguen Island, lies on the S side of the outer entrance, 2 miles SSE of Saddle Island.

Village Bay (10° 34'N., 119° 07'E.) indents the W side of Boayan Island. There are depths of 35m in the bay, shoaling to 3.7m near its head.

Anchorage, sheltered from N and E winds, can be taken near the middle of the bay in 35m.

Anchorage, sheltered from SW winds, may be taken 0.75 mile N of the E extremity of Boayan Island, in a depth of 26m.

Niaporay Island (10° 33'N., 119° 12'E.) lies on foul ground 0.6 mile S of the E extremity of Boayan Island. Niaporay Rock lies 0.6 mile SE of Niaporay Island, and Pagdanan Rock lies about 1 mile ENE of the same island. These rocks have depths of 3.6 and 1.8m. A patch, with a depth of 1.8m, lies 0.5 mile NE of Niaporay Rock.

An anchorage, protected from SW winds, may be taken in the outer part of Pagdanan Bay, in depths of 29 to 33m, mud, 1 mile NNW of Caramatan Point. During NE winds, anchorage may be taken about 2.5 miles S of Pagdanan Point, in a depth of 18.3m.

Directions.—Vessels approaching either of the above anchorages should keep the S peak of **Saddle Island** (10° 32'N., 119° 07'E.) bearing more than 315° until the summit of **Catalat Island** (10° 26'N., 119° 01'E.) is seen between **Dalaga Point** (Baboy Daraga Point) (10° 29'N., 119° 05'E.) and the S extremity of **Cacnipa Island** (10° 30'N., 119° 04'E.), bearing 231° in order to clear Royalist Shoal.

Port Barton (10° 28'N., 119° 08'E.) is entered SW of Albaguen Island, which lies between Pagdanan Bay and Port Barton. Albaguen Island, 192m high, has a prominent reddish-colored stripe on its NW side. From this island the NE side of Port Barton is formed by foul ground, which extends 3.5 miles SE to Caramatan Point.

Cacnipa Island (10° 30'N., 119° 04'E.), bold and steep with a double summit, lies off the NW side of the entrance to Port Barton. The SE end of the island is separated from the NW end of the rocky headland between Port Barton and Mayday Bay by a channel 0.5 mile wide. Passage Reef, with above-water rocks, lies in the middle of this channel.

Anchorage in Queens Bay, Port Barton, protected from the Southwest Monsoon, can be taken 2 miles SSW of Albaguen Island in 37m, stiff mud. Anchorage, sheltered from NE winds, may be taken about 3 miles SSE of the above anchorage, in a depth of 22m, mud. Care must be taken to avoid the reefs at the head of Port Barton.

11.23 Mayday Bay (10° 27'N., 119° 03'E.) is entered between the N extremity of Catalat Island and Dalaga Point, 4.75 miles NE. Cacbolo Island, 150m high, lies 0.75 mile NW of Catalat Island, in the entrance to the bay. Cacbolo Island has bold, steep cliffs along its N and W sides. A reef, awash, lies close off the NE end of the island. Catalat Island is connected to the mainland to the S by a narrow, foul ridge.

Two above-water rocks stand on this ridge. The E side of Mayday Bay is protected by Dalaga Peninsula, a continuation of Mayday Range.

Conical Head, one of several steep and rugged headlands forming the shores of the bay, divides the head of the bay into two small, sandy bays; the SW one is named Santa Cruz Bay.

Watering Bay (10° 25'N., 119° 02'E.) is located 1.75 miles SW of Conical Head.

Anchorage, which is sheltered except during NW winds, can be taken in the S part of Santa Cruz Bay, in depths of 18 to 27m, soft mud. Good anchorage is also available off the entrance to Watering Bay, in a depth of 35m.

Crater Shoal (11° 01'N., 118° 50'E.), with depths from 8.7 to 18.3m, lies with its E extremity about 21 miles WNW of Cape Ross. Several patches, with depths of 5.8 to 11m, lie within 5 miles E and SE of Crater Shoal.

Detached shoals, mostly steep-to and with depths of 8.5 to 18.3m, extend 35 miles NE from the N end of Crater Shoal. The shallowest patch lies 23 miles WNW of **Libro Point** (11° 25'N., 119° 29'E.). The outermost shoals lie within the 200m curve which trends 26 to 30 miles offshore.

Capoas Cluster (10° 55'N., 118° 53'E.), a group of coral reefs and shoals, with depths of 6.9 to 16.5m, lies 5 to 19 miles NNE of Crescent Reef. Several shoals, with depths of 5.5 to 11m, lie within 5 miles E of Capoas Cluster.

11.24 Crescent Reef (10° 40'N., 118° 43'E.) lies about 23 miles NW of **Amalingat Point** (10° 25'N., 118° 59'E.), a bold, steep headland. The reef is a narrow, steep-to strip of coral about 0.75 mile long, with a least depth of 7.3m.

Numerous shoals and reefs, with depths of 5 to 11m, lie near the 200m curve as it trends N and S, respectively, of Crater, Capoas and Crescent Shoals.

Amalingat Point (10° 25'N., 118° 59'E.), a steep bold headland 334m high, is located 1.5 miles SW of Catalat Island. A rock lies close off the point and a reef, awash, lies 0.1 mile W of the rock.

Peaked Point (10° 22'N., 118° 58'E.), located 3 miles SW of Amalingat Point, is cliffy and is formed by a range terminating in a 383m high peak. A detached rock, 31m high, lies close off the point.

Jibboom Bay (10° 20'N., 118° 58'E.) is entered between Peaked Point and Long Point, located 3.75 miles S. Bay Island is the largest and farthest W island of a group of islands that lie in the entrance of the bay. Underwater ledges connect this island with the E island in the group.

Foul ground, with above and below-water rocks and reefs, fill the bights on either side of Long Point, and in a heavy swell the sea breaks over an 8.5m patch lying 0.3 mile W of the point.

The inner parts of two coves forming the NE part of Jibboom Bay are completely foul. A small sandy bay is formed between Long Point and a point 1.75 miles NE.

Vessels occasionally call here to load timber from Caruray, which is situated 1 mile inland.

Anchorage, exposed to the Southwest Monsoon, can be taken 2.5 miles ENE of Bay Island, in a depth of 18m, mud. Greater protection may be obtained in the cove close NE.

Anchorage can also be taken off Caruray in depths of 7 to 15m, gray sand and mud, in an area about 0.5 mile in extent.

11.25 Cliff Head (10° 18'N., 118° 56'E.), a long wooded promontory terminating in a steep cliff, with Panganakan Point located 1 mile SW, separate Jibboom Bay from St. Paul Bay. A small bay, with depths of 7.3 to 10.9m, lies between Panganakan Point and Paodat Point, which is located 1.25 miles S.

Stripe Peak (10° 12'N., 119° 02'E.) rises to a height of 1,470m, 7 miles SE of Paodat Point; it has a distinct drop off to N from its summit. Another inland landmark is Mount Saint Paul, which lies 6.25 miles SSW from Paodat Point.

St. Paul Bay (10° 14'N., 118° 54'E.) is entered between **Paodat Point** (10° 16'N., 118° 56'E.) and Capoas Point, 5 miles SW. The S shore of the bay is bold, but E and N of Capoas Point, the shores are sandy with several low, rocky points.

Depths of more than 15m exist in the outer part of St. Paul Bay; within the charted 20m curve, which trends up to 2 miles offshore, there are many rocks, reefs and shoals. St. Paul Rock, off Paodat Point, and a tower-shaped rock, 3 miles S, are prominent.

Vessels calling at **Sabang** (10° 12'N., 118° 54'E.), in the SE part of St. Paul Bay, can anchor, in depths of 15 to 17m, sand and coral, about 1.75 miles SW of Paodat Point.

This anchorage gives protection from the Southwest Monsoon, but there is no protection from NW winds.

Piedras Point (10° 11'N., 118° 48'E.), a bluff, rocky promontory, lies 3.25 miles WSW of Capoas Point; steep ridges extend SSE from the point.

11.26 Ulugan Bay (10° 07'N., 118° 48'E.) is approached between Piedras Point and Northwest Head, 4.25 miles SSW. The coast in the vicinity of **Broken Head** (10° 07'N., 118° 49'E.), 4 miles S of Piedras Point, the E entrance point of the bay, is composed of reddish-brown cliffs.

Cleopatra Needle (10° 07'N., 119° 00'E.), a prominent, sharp peak, is the farthest SE of four conspicuous peaks which form a good landmark.

Black Rock is the outermost and largest of a group of rocks extending 137m offshore, 1.5 miles S of Piedras Point.

Watering Bay (10° 09'N., 118° 49'E.), a slight indentation in the shoreline, is entered between Black Rock and Bentoan Point, 1 mile S. With offshore winds, temporary anchorage can be taken in the bay, in 11m, 1 mile or more offshore.

Camungyan Island (10° 09'N., 118° 46'E.) is the largest of two islets, along with an above-water rock, which lie 1.25 miles N of Northwest Head. A ledge, with depths less than 6m, extends from the islets almost to Northwest Head. A light is shown from the Islets.

Rita Island, a narrow island steep-to on its E side, lies on the W side of Ulugan Bay, 2 miles SSE of Northwest Head. The N part of the channel between the island and mainland is foul, the S part has a least depth of 18.3m.

The W side of Ulugan Bay is high, broken by three inlets. The shoreline is rocky, steep, and cliffy. Several small rivers flow through mangroves and empty into the head of the bay.

Channels lead into the rivers, so that small craft with local knowledge at HW, can reach some inland villages. The farthest N inlet of the three inlets has a channel 11m deep leading towards its head.

The E side of Ulugan Bay, S of **Dalrymple Point** (10° 07'N., 118° 49'E.), is low and covered with mangroves. From

Dalrymple Point S to Good Point, 5 miles SSW, depths of less than 5.5m exist on the foul rocky ground lying as far as 0.75 mile offshore.

11.27 Oyster Inlet (10° 04'N., 118° 46'E.), on the W side of Ulugan Bay, is entered W of the S end of Rita Island. Depths decrease from 35m in the entrance to 16.5m 0.5 mile from its head.

Anchorage can be taken 0.25 mile S of Rita Island during the Southwest Monsoon, in depths of 37m, stiff mud. A better anchorage is available in Oyster Inlet with the N entrance point aligned 071° with **Tidepole Point** (10° 04'N., 118° 47'E.).

Directions.—Vessels approaching Ulugan Bay from the N can identify the entrance by the valley between **Mount Peel** (10° 00'N., 118° 43'E.) and the high land SW of Cleopatra Needle. The low land at the head of the bay is invisible until fairly close to Piedras Point. The 11.4m patch lying 3.5 miles N of Piedras Point should be avoided.

When approaching the bay from the S, endeavor to be in a position about 35 miles 269° from Northwest Head at daybreak. From this position, vessels can identify the entrance of the bay at considerable distance by Mount St. Paul and Cleopatra Needle on its N side and Mount Peel on its S side.

Care must be exercised to avoid the 11m and 9.1m patches lying about 29 miles W of Northwest Head; the reefs and shoals extending 37 miles SW from Crescent Reef; **Duhme Shoals** (10° 06'N., 118° 31'E.), and **Gode Shoal** (10° 13'N., 118° 26'E.).

If bound for Ulugan Bay, or for any harbor N of it on the W side of Palawan, do not approach the coast within a depth of 183m S of the parallel of 10° 07'N.

When entering Ulugan Bay vessels should pass about 1 mile N and E of Camungyan Island and 0.25 mile E of Rita Island.

11.28 Northwest Head (10° 08'N., 118° 46'E.) is the end of a bold and precipitous promontory that forms the W side of Ulugan Bay.

The head rises about 0.25 mile inland to Northwest Hill and a high rock stands on the N extremity of the head.

Prominent landmarks along this mountainous coast include **Mount Peel** (10° 00'N., 118° 43'E.), a bold and rocky peak with sharp ridges and deep ravines extending from its N and W sides.

Karsoglan Hill (10° 02'N., 118° 46'E.), near the coast, is angular and connected to Mount Peel by a low ridge.

Mount Airy (9° 57'N., 118° 41'E.), with twin summits, stands on a low ridge connecting Mount Peel with **Mount Herschel** (9° 55'N., 118° 38'E.).

Mount Beaufort (9° 50'N., 118° 37'E.), the northernmost peak of a mountain range extending to the head of Ulugan Bay, has a depression in its dome-shaped summit.

Thumb Peak (9° 48'N., 118° 36'E.), with a dome-shaped summit, is prominent.

Mount Stavely (9° 44'N., 118° 33'E.), with a pinnacle summit rising from the center of its table top, is the southernmost peak of three remarkable peaks.

Anepahan Peaks (9° 37'N., 118° 27'E.) are two peaks of equal height with the N peak the sharper of the two. Several round-topped hills, standing on sloping terrain between the peaks and **Long Point** (9° 39'N., 118° 20'E.), are usually visible when mountains and peaks are hidden in clouds.

A high range of prominent mountains extend from the SW side of Ulugan Bay to a position about 12 miles ENE of Long Point. The rocky coast to Table (Tagpasek) Point is formed of cliffs rising high close inland.

Table Point (10° 00'N., 118° 39'E.) is a conical hill with a detached rock lying close off it. There is a conspicuous square patch on a hillside about halfway between Northwest Head and **Escabrosa Point** (10° 04'N., 118° 44'E.).

Within the 200m curve which lies about 35 miles W of Northwest Head and about 18 miles NW of Hummock Point, there are numerous coral patches with depths of 0.3 to 18.3m. Many of the detached, isolated shoal patches are subject to changes of position through reported observations and without doubt, uncharted dangers exist in the area.

Because of the multiplicity of these dangers, no attempt is made to describe them. Vessels are advised to remain outside the 200m curve unless possessed of local knowledge.

11.29 Hen and Chickens Islands (9° 58'N., 118° 37'E.), a small group of islets and rocks, lie 1.5 miles W of **Sprat Point** (9° 58'N., 118° 39'E.).

The coast from Table Point forms an open bight ending at **Bluff Point** (9° 55'N., 118° 36'E.), a spur of Mount Herschel.

The coast between Bluff Point and **Long Point** (9° 39'N., 118° 20'E.) is rocky and backed by high mountains.

Penacosa Point (9° 46'N., 118° 31'E.) is the site of a pier about 40m long with a depth of 3.4m alongside its outer end.

The settlement of Napsahan (Anepahan) is located about 3 miles SW of the pier and close E of a rocky point.

Off wooded and rocky Long Point lie North Rock and **South Rock** (9° 42'N., 118° 23'E.), the former nearly covers at HW, the latter is high and steep-to. There are detached shoal patches, with a least depth of 3.7m, lying as far as 2 miles offshore in the vicinity of Napsahan.

From Long Point the coast trends in a SW direction about 35 miles to Hummock Point. The 20m curve lies about 0.2 mile off Long Point and up to 2.5 miles in other places. Isolated depths less than 18.3m lie 10 to 12 miles offshore; their positions may best be seen on the chart.

From the impressive **Victoria Peaks** (9° 22'N., 118° 20'E.), 1,709m high, a range extends 12 miles NE to high land SE of Long Point. Many minor ranges and spurs, divided by densely wooded ravines and gorges, lead to the coast.

End Peak, 1,357m high, a conspicuous double-tipped peak, rises 7.5 miles SW of Victoria Peak.

Cuckold Hill (9° 29'N., 118° 13'E.), high and prominent, rises close to the coast 13 miles SW of Long Point.

West Coast—Northwest Head to Hummock Point

11.30 Apurauan Point (9° 36'N., 118° 20'E.), a low bluff 3 miles S of Long Point, forms one entrance point of a small bay. Close within the point is Apurauari, a village. The coast in the vicinity of the point, and as far as 1 mile offshore, is foul.

Hamburger Rock, awash, lies 1 mile offshore, 3.25 miles SW of Apurauan Point. Several other dangers lie between this rock and Apurauan Point.

Moorsom Point (9° 33'N., 118° 17'E.), located about 4.75 miles SW of Apurauan Point, is a moderately high and

prominent headland. There are above and below-water rocks lying up to 1 mile offshore.

Peaked Island (9° 30'N., 118° 12'E.), 6 miles SW of Moorsom Point, lies on a partly drying reef extending E to the coast; the area around the island is foul.

Bluff Point is located 5 miles SW of Moorsom Point, and Steep Point lies 4 miles farther SSW.

Bahia Honda is entered between Steep Point and Bahia **Honda Point** (9° 24'N., 118° 07'E.), 4.25 miles SW. The bay has depths of 18.3 to 22m, 0.5 mile off the shores. A shoal, with a depth of 3.7m, was reported to lie approximately 2.75 miles NNW of Bahia Honda Point.

An isolated patch, with a depth of 0.6m, is charted midway between Steep Point and Bahia Honda Point; other dangers are charted in the area. Local knowledge is required to enter, however, it is reported that **Back Cap** (9° 17'N., 118° 05'E.), bearing 196°, open of the low land near Bahia Honda Point, leads W of the dangers between Peaked Island and Bahia Honda Point.

From Bahia Honda Point the coast trends SSW 4.5 miles to an unnamed point; **Double Island** (9° 22'N., 118° 05'E.) lies in the bay formed between these points.

Palm Island (9° 23'N., 118° 03'E.), 30m high, lies off the entrance to the bay, 4.75 miles WSW of Bahia Honda Point. Patelan Island and Tidepole Island lie 1 mile SE and 1.25 miles SSW, respectively, of Palm Island. There are several shoal patches W and NW of Palm Island.

Treacherous Bay, formed between the unnamed point and **Durudeen Point** (9° 18'N., 118° 02'E.), 4.25 miles SW, is fronted by reefs, and encumbered with shoals; it should be avoided. Devils Cap, a prominent yellow cliff, and Back Cap, back the low, densely wooded coast.

Bajallanura Island (9° 18'N., 117° 59'E.), which is low and flat, lies 3 miles WSW of Durudeen Point. Reefs, which dry in places, fringe the island and extend 0.25 mile N and NW from it.

11.31 Malanut Bay (9° 17'N., 118° 00'E.), affording shelter to vessels of moderate draft with local knowledge, is entered between Bajallanura Island and Albion Head, 1 mile SW. Albion Head is a bold, sheer, and thickly wooded headland with several high hills.

A reef, with depths of less than 1.8m, lies in mid-channel N of Albion Head, and a patch, with a charted depth of 0.6m, lies 1 mile NE of Bajallanura Island.

The channel NE of the reef N of Albion Head is 0.15 mile wide, with depths of more than 11m. The best time to enter the bay is at LW, when the reef fringing the W side of Bajallanura Island is dry. The N extremity of Albion Head should be given a wide berth.

Quezon (9° 15'N., 117° 59'E.), a town, stands at the head of Malanut Bay near the site of Alfonso XIII, an old military post. There are settlements nearby. A pier, reported in ruins, its outer end drying at LW, is located at Quezon.

A light is shown from the shallows, in 1.5m, 0.4 mile N of the jetty.

Triple Cima Island (9° 19'N., 117° 56'E.), the outer island in the approach to Malanut and Nakoda Bays, is located 2.75 miles NW of Albion Head.

The island has three peaks which rise to 50m. It is fringed by a reef, and depths of less than 5.5m extend 137m from its SE end; a 5.5m patch lies 0.1 mile SSW of the same extremity.

Numerous shoals lie in the vicinity of Triple Cima Island, some of which are reported to be steep-to; their positions may best be seen of the chart.

Nakoda Island, Mariquit Island, and Maricaban Island extend S from a position about 1 mile S of Triple Cima Island; Sirinao Island, 85m high, lies with its NW extremity, 0.6 mile NE of Nakoda Island.

Nakoda Bay (9° 17'N., 117° 57'E.) is formed by the above islands on the N, NW, W, and SW sides and by the peninsula which extends SW from Albion Head. The bay may be entered between Albion Head and Sirinao Island, about 0.9 mile NW.

This passage, about 0.1 mile wide with a least depth of 7.3m, passes close S of Sirinao Island.

The preferred entrance is between Sirinao Island and Nakoda Island; it is 0.4 mile wide with a depth of 12m.

An isolated reef, which uncovers, lies 0.4 mile SSE of the N extremity of Nakoda Island.

Small vessels, with local knowledge, can anchor 0.2 mile SW of the S extremity of Sirinao Island, in a depth of 7.3m; it is protected from the Northeast Monsoon.

In the Southwest Monsoon, vessels should anchor SE of Nakoda Island, taking care to avoid the reef to the E.

West Coast—Hummock Point to Cape Buliluyan

11.32 From **Hummock Point** (9° 16'N., 117° 54'E.), the coast trends in a general SW direction about 72 miles to Cape Buliluyan, the S extremity of Palawan. The 20m curve lies up to 4.5 miles off parts of this coast and the 200m curve lies up to 18 miles offshore.

There are many isolated shoal patches, with depths of 2.7m and less, between the 20m and 200m curve and breakers everywhere. A wooded mountainous range exists near the center of Palawan, terminating about 27 miles N of Cape Buliluyan.

Hummock Point rises close inland to Point Hill; it is the farthest N peak of a low range extending 5 miles in a SW direction, terminating in a hill with three summits. A high wooded mound rises from the plain SW of this range; other hills of nearly the same elevation lie between this range and False Sharp Peak.

Marantao Island (9° 16'N., 117° 52'E.), 75m high, lies near the edge of the coastal reef, 1 mile W of Hummock Point. Malapackun Island, located 1.5 miles SW of Marantao Island, rises to a height of 104m; the island has a tree covered double summit. Malapackun Island was reported to lie 0.75 mile S of its charted position.

Isabel Point (9° 10'N., 117° 47'E.) lies 9.5 miles SW of Hummock Point. The coast between these points is low and indented by bays, and are separated by low abrupt points from which drying reefs extend up to 0.4 mile.

These bays are mostly free of reefs, with depths of 3.7 to 5.5m close to the shore.

Caution.—Within the 200m curve, which lies 18 to 20 miles NW of Hummock Point and Isabel Point, there are numerous coral heads, some breaking, and all dangerous to navigation.

Vessels are advised to remain seaward of the 200m curve without local knowledge.

Among the dangers off this stretch of coast are **Collingswood Shoal** (9° 12'N., 117° 32'E.), two coral heads with depths of 2.7m and 3.2m. There are many shoals, best seen on charts of the area, lying within 10 miles N and S of Collingswood Shoal.

Scalesby Castle Shoal (9° 05'N., 117° 18'E.), steep-to, has a least depth of 5.5m. A chain of shoals, with depths of 6.9 to 11m, extend 20 miles NE from Scalesby Castle Shoal and close within the 200m curve. Other off-lying shoals are described with related coastal features.

11.33 Tagbuaya Point (9° 08'N., 117° 46'E.) lies 2.75 miles SSW of Isabel Point. The point is low and wooded with a small coconut grove near its extremity. A reef extends 0.25 mile from the point; reefs and shoals, with depths less than 5.5m, lie within 1.75 miles WNW and NNW of it. A 1.8m patch lies 1 mile SW of the point.

Tagbuaya Bay is located close S of Tagbuaya Point; the shores of the bay are heavily wooded. Depths in the bay decrease from 15m at the entrance, to a sandy beach at the head. Small vessels with local knowledge can take anchorage in the bay when winds are from the N.

Eran Bay (9° 06'N., 117° 43'E.) is entered between Tagbuaya Point and Eran Point, 4.75 miles SW. The bay is open to the N and W and is identified by the wedge-shaped and prominent Mount Eran Quoin, which stands 3 miles SW of Eran Point. There are depths of 11 to 16.5m in the bay, however, there are detached shoals, visible at LW, with depths less than 5.5m.

Within Eran Bay there are several smaller bays. In addition to Tagbuaya Bay, which is the farthest W bay, are Bonog Bay, Tagnipa Bay, Banisi Bay and Iraan Bay. These bays are separated by low abrupt points.

Iraan Bay (9° 05'N., 117° 42'E.) lies between Eran Point and Banisi Point, a low, wooded point about 2 miles SE.

This bay lies in the SW part of Eran Bay. A drying reef extends 1.25 miles N from Banisi Point, but the bay is open N. It affords good anchorage in S winds.

Drying coral reefs lie on both sides of the bay which has a sandy beach at its head. Depths in the bay decrease from 14.6m gradually towards the beach.

Eran Point (9° 05'N., 117° 41'E.) is low, narrow, and densely wooded. A drying reef extends 0.5 mile offshore from the point; mangroves cover the inner end of the reef.

Between Eran Point and Mapankal Point, 12 miles SW, the coast is low and densely wooded, and is fronted by numerous dangers which lie up to 18 miles offshore. Reefs, which dry in places, extend up to 0.75 mile offshore. A number of small bays, entered through breaks in these reefs, indent this coast.

11.34 Mantaya Bay (9° 05'N., 117° 41'E.) is entered between Eran Point and Mantaya Point, a low, wooded point 1.75 miles SSW. Depths decrease from 9m at the entrance to the sandy beach at the head. Coral heads, with depths of less than 9m, extend 2.75 miles N of Mantaya Point.

Punta Baja Harbor (9° 03'N., 117° 38'E.) (World Port Index No. 59290) is entered between **Baja Point** (9° 04'N., 117° 39'E.) and Tarumpitao Point, located 1 mile SW.

A black can buoy, with radar reflector, marks the 5.5m curve, 1 mile NW of Baja Point. The harbor entrance, 137m wide, has depths of 16.5 to 18.3m while there are depths of 7m in the middle of the harbor. Only one small coastal vessel at a time can be accommodated. Only vessels with local knowledge should attempt entry.

Kinalang Bay (9° 02'N., 117° 37'E.) is entered between Tarumpitao Point and a point 1 mile SSW. This very small bay affords shelter from W and NE winds. There are extensive shoals, with a least depth of 4.1m, lying 0.75 mile NW of the entrance. The bay has a depth of 14.6m in the entrance and is deep within where there is a pier, with a depth of 1.8m alongside.

Tarumpitao Point (9° 03'N., 117° 38'E.) is the site of a Loran Station which is no longer in operation. The buildings and radio masts, the latter painted in red and white and marked by obstruction lights, stand on the point. The cove entrance adjacent to the point is free of dangers as far as two buoys which mark the passage through the reef. Only small vessels with local knowledge should enter the cove and only then during daylight hours and under the most favorable conditions. Anchorage can be taken, in depths of 9 to 11m, in the middle of the cove.

Directions.—The following directions have been submitted by a U.S. Coast Guard vessel traversing the inner route between the Loran Station at Talampulan Island and the Loran Station at Tarumpitao Point.

This vessel no longer uses Palawan Passage as it is very difficult to take bearings from a position 20 to 30 miles offshore and approach the coast through the reefs with any degree of safety. This is especially so as the summits of the mountains are usually cloud covered.

This vessel consistently uses a passage between the offshore reefs and the shore reefs. This passage has been made at night by radar, but it is desirable to arrive off **Table Point** (10° 00'N., 118° 39'E.) in order to arrive at Tarumpitao Point before dark.

No attempt should be made to enter the cove at Tarumpitao Point at night. Depths of not less than 29m have been found along the inner passage.

Vessels depart Talampulan Island on a S course to position 12° 03.2'N, 119° 50.8'E. Then a course of 217° is steered to a position 11° 15.2'N, 119° 14.1'E.

The course is changed to 208°, passing abeam of **Tapiutan Island** (11° 13'N., 119° 16'E.), at a distance of 1.75 miles. The island is prominent and makes an excellent radar target.

A long straight run on the last-named course with good radar targets for night navigation is available. Mount Capoas is prominent.

All the islands and points make good radar targets at night and visual bearings during the day.

Mount Peel is a perfect pyramid shape at a great distance.

11.35 Dry Reef (10° 00'N., 118° 36'E.) should be passed at a distance of 2.75 miles. Bluff Point and **Shirt Point** (9° 51'N., 118° 34'E.) afford good radar targets. At position 9° 51.7'N, 118° 29.6'E the course should be altered to 224° passing Long Point at a distance of 1.75 miles.

South Rock (9° 42'N., 118° 23'E.) is visible and is a radar target.

At position 9°34.5'N, 118°13.5'E, the course should be altered to 235°. Peaked Island can be used for ranges and bearings. Cuckold Hill is conspicuous and stands in the center of a valley. Palm Island, three pyramid hills, Marantao Island and Malapackun Island afford good bearings and radar ranges, even the small rock inshore of the latter island is conspicuous.

Devils Cap and Back Cap are also prominent. Having arrived 4.5 miles WNW of Hummock Point or at position 9°19.1'N, 117°50.8'E, the course should be altered to 226° so as to pass abeam of Isabel Point at a distance of 2.75 miles to a position 3.5 miles NNW of Eran Point.

Mount Eran Quoin, the site of an old air strip, is prominent and appears to rise straight up and sloping back at the far side, appearing as a wedge. Shoal water has been sighted in the vicinity of the 2.7, 6.8, and 5m patches.

The inshore area between Malapackun Island and Tarumpitao Point is dangerous and should not be approached closer than 2 miles. When the center of the Loran Station buildings bears 125°, course should be altered to 130°.

On approaching the shore the two buoys marking both sides of the channel entrance will be sighted. Vessels should steer in between the two buoys, using great caution to avoid the dangers on either side.

Malakibay Bay (8°58'N., 117°34'E.) is entered between Campong Olay Point, located 5 miles SSW of Tarumpitao Point, and Mapankal Point, 2.5 miles SW.

The bay affords shelter for small vessels from SW winds. There are numerous dangers fronting the bay and adjacent coast that lie as far as 18 miles offshore. Drying reefs lie up to 0.75 mile seaward.

The W part of the bay is encumbered with shoals; the E part is clear, with depths of 9m decreasing to the shore which is fringed by a drying reef.

Mount Landargun and **Mount Gantung** (8°58'N., 117°49'E.) are the two highest mountains in the central range which extends 20 miles NE from **Mount Mantalingajan** (8°49'N., 117°49'E.).

False Sharp Peak, which may be mistaken for Sharp Peak, rises close inland of Eran Bay.

Mount Calibugon (8°59'N., 117°49'E.) is a table-topped mountain with a sharp nipple on its summit. Waterfall Peak, a bare, rocky shoulder, from which there is usually a waterfall, is located between False Sharp Peak and Mount Guntung.

11.36 Pampandugang Point (Mapankal Point) (8°57'N., 117°33'E.) is fronted by shoal water to a distance of 1.25 miles; the 20m curve lies 2 miles offshore. Tatub Point lies about 17 miles SSW of Mapankal Point.

From Mapankal Point, the coast trends 5.25 miles SSW to Sicud Point (Jervois Point), at low sandy point. A reef which dries at LW springs, extends 0.4 mile WNW from the point.

Culasian Bay (8°52'N., 117°29'E.) is entered between **Sicud Point** (8°53'N., 117°29'E.) and Bacao Bacao Point, about 2.5 miles SSW. The bay has a sandy beach backed by a wooded plain.

The Culasian River discharges through the reef close E of Bacao Bacao Point. The Conduaga River enters the bay about 1 mile NE of the point.

Brechtel Shoal (8°53'N., 117°26'E.), with a least depth of 5.5m, lies in the approach to the bay. Numerous reefs, some partly drying, lie between Brechtel Shoal and the head of the bay.

Three high hills rising within 3.5 miles NE and SW of the bay entrance points, as well as one hill within each entrance point, are good landmarks.

Anchorage can be taken, in a depth of 7.3m, 0.5 mile NNW of the entrance to the Conduaga River.

Arapitan Point (8°48'N., 117°26'E.), also known as McLean Point, is located 3.75 miles SSW of Bacao Bacao Point. From Arapitan Point the coast trends 1.75 miles SW to Balintang Point; a reef extends up to 0.5 mile offshore between these points.

Marasi Bay (8°46'N., 117°24'E.), charted as Bulaloc Bay, is entered between Balintang Point and Tatub (Pinos) Point, a bluff head 4 miles SW.

Dita Dita Island lies about 1 mile W of Balintang Point and is joined to the point by a drying reef.

Datag Islet and Bucid Islet are two sandstone islets lying on a drying reef, 1 and 1.5 miles ENE, respectively, of Tatub Point. Reefs that are visible extend E and W from these islets. A constricted winding channel, with a least depth of 3.7m, leads between these reefs and the foul ground S. Numerous dangers, best seen on the chart, lie in the approach to Marasi Bay which is encumbered with shoals.

A channel, with a least depth of 18.3m, leads 1.5 miles SW of Dita Dita Island and through an opening 0.1 mile wide, in the reef extending WSW from Balintang Point.

This opening leads to an excellent anchorage for small vessels, in a reported depth of about 18.3m, ESE of Bucid Islet. Protection from N is afforded by a reef which has some above-water rocks on it.

Between **Mapankal Point** (8°57'N., 117°33'E.) and Tatub Point include **Vanguard Shoal** (8°55'N., 117°16'E.), 17 miles WSW of Mapankal Point; Merlin Shoal Patches, 3 miles SSW of Vanguard Shoal, with depths of 3.2 to 11m; and **Paragua Ridge** (8°57'N., 117°12'E.), 4 miles NW of Vanguard Shoal, a narrow, elongated coral ridge with a least depth of 9.1m. An isolated 10.1m patch lies 1.5 miles SW of this ridge.

11.37 From Tatub Point the coast trends SSW 13 miles to **Gandan Point** (8°34'N., 117°14'E.), which is the cliffy termination of a wooded promontory.

Cliff Point (8°42'N., 117°20'E.), marked with a red cliff, lies 3.5 miles SSW of Tatub Point. A hill rises to a height of 102m, 1.25 miles SE of the point.

Tagbita Bay (8°41'N., 117°20'E.) is entered between Cliff Point and Providencia Point, 3 miles SSW; the coast between these points is fringed with drying coral reefs.

The bay is fronted by dangerous reefs. Perigee Shoal, lies 3.25 miles SW of Cliff Point and breaks during strong winds. Coloby Shoal, with a charted depth of 5.5m, lies 3.5 miles NW of Cliff Point. Many shoals, with depths of 1.2 to 9.1m and covered with seaweed, lie in the approach to Tagbita Bay. In the bay there are depths of 13 to 15m.

Anchorage, protected from the Northeast Monsoon, can be taken, in a depth of 14.6m, SW of Cliff Point.

Latud Point (8°38'N., 117°16'E.) lies 2.25 miles SW of Providencia Point. The coast between these points is fringed by a drying reef which extends up to 0.6 mile offshore.

Simagup Bay, its entrance almost closed by reefs, lies between Latud Point and Siacle Point, 1 mile SW. Siacle Point may be identified by wooded hills and and by asteep cliff. Above and below-water shoals extend off both points.

Canipan Bay, fronted by a drying reef and encumbered with shoals, is entered between Siacle Point and Gandan Point, the end of a cliffy promontory. At HW, small vessels transit the river emptying into the head of the bay.

There are several dangers lying off the coast between Tatub Point and Cape Buliluyan; these shoals are named from N to S.

Northeast Antelope Shoal (8° 46'N., 117° 14'E.), steep-to, with a least depth of 3m, lies 8 miles WNW of Tatub Point.

Antelope Shoal, an extensive area of shoals and coral heads, with a least depth of 2.7m, is located close SW of Northeast Antelope Shoal.

Breaker Reef (8° 41'N., 117° 09'E.), with a least charted depth of 1.5m, is about 0.3 mile in extent; it lies 8.5 miles WNW of Providencia Point. North Regent Shoal, with a depth of 2.7m, lies 5 miles SW of Breaker Reef, and Herefordshire Shoal lies 5 miles farther SW.

South Regent Shoal (8° 32'N., 117° 05'E.), 9 miles WSW of Gandan Point, has a depth of 2.7m and breaks. Breakers form on a shoal area with a charted depth of 3.7m, 3 miles NE of South Regent Shoal.

Kamonga Shoal, with a depth of 3.7m, lies 3.5 miles ESE of South Regent Shoal. Shallow Shoal, a 5.5m patch with possibly less depth, lies 3.5 miles S of South Regent Shoal. A shoal patch, depth unknown, lies 1 mile NW of Shallow Shoal.

11.38 Neritopsis Reef (8° 39'N., 116° 55'E.), approximate position, lies 23 miles W of Providencia Point. It has a depth of less than 1.8m.

Murex Shoal (8° 29'N., 116° 56'E.) lies 19 miles WSW of Gandan Point; this position is doubtful. So far as is known, Murex Shoal is the farthest S of the outer dangers off the W coast of Palawan.

From Gandan Point the coast trends SSW 6.5 miles to **Reposo Point** (8° 28'N., 117° 30'E.). The intervening coast is mostly bordered by mangroves and is fringed by a steep-to reef, which dries and extends 0.75 mile seaward in places. From Reposo Point the coast extends 8 miles farther SSW to Cape Buliluyan.

Mount Wangle (8° 27'N., 117° 14'E.) rises to a height of 262m, 1.75 miles SE of Reposo Point. It is a prominent peak with a small triple summit.

Escarpado Peak, 11 miles NNE of Mount Wangle, reddish colored with a long smooth summit, is the highest peak of the Bulanjao Range.

Canipan Hill (8° 36'N., 117° 18'E.), a steep conical hill with two peaks 295m high, lies near the E side of Sinagup Bay, 9 miles NNE of Mount Wangle; it is the most prominent landmark, with the exception of Bulanjao Range, on this part of the coast.

Reposo Point, which may be identified by a sandy beach, is fronted by a drying reef and has shoals extending 3 miles seaward.

Anchorage can be taken about 0.7 mile N of the point, in depths of 7.3 to 9.1m. The anchorage is sheltered from the Northeast Monsoon and the reefs provide some shelter from the Southwest Monsoon.

Capyas Island (8° 26'N., 117° 11'E.), 21m high, lies on the E side of a reef, 2 miles SSW of Reposo Point. Foul ground and drying reefs lie between the island and the coast, 1 mile E.

Under favorable conditions anchorage can be taken about 0.75 mile E of the island; the approach is through a tortuous channel, and should only be attempted with local knowledge.

Cape Buliluyan (8° 20'N., 117° 12'E.), the S extremity of Palawan Island, is a low, shelving point fronted by mangroves.

The S and E sides of the cape have depths of more than 7m close to, but the W side is fringed by a drying reef which extends up to 0.5 mile offshore, with depths of 11m, mud, close to the edge. There are several coral patches, with depths of 7.3 to 13.7m, between the W side of Cape Buliluyan and the bank extending N from **Canimeran Island** (8° 19'N., 117° 08'E.).

Palawan—East Coast

11.39 The E coast of Palawan is indented by several open bays backed by lowland areas ranging from 1 to 6 miles inland. Many small rivers flow down from steep, mountain ranges inland to the lowlands. The mouths of these rivers are fronted by continually shifting sand bars.

Puerto Princesa (9° 44'N., 118° 44'E.), the principal port on the E coast, is an excellent natural harbor with fertile terrain surrounding it.

The approaches to the E coast of Palawan are difficult due to the numerous small islands, reefs, and shoals which lie as far as 20 miles offshore. The mountain peaks, when visible, and the many coastal islands, afford ready marks for navigating the various channels.

Winds—Weather.—The Northeast Monsoon and the Southwest Monsoon each prevail about 5 months of the year in Palawan and vicinity. Interruptions in the monsoons are more frequent in the S part of the island, and the topography may modify the prevailing wind. Along the E coast of Palawan the Northeast Monsoon and the Southwest Monsoon are replaced at sundown by the land breezes which are felt up to 15 miles offshore. This occurs even when the monsoon season is fully developed.

The Northeast Monsoon commences in October and is fully established by the early part of November. It continues until April. The direction of the wind is mainly between N and NE. Towards the end of the season it becomes more easterly. The most steady winds occur during January and attain a velocity of 15 knots.

The Southwest Monsoon, following a transition period of variable winds and calms, prevails from June to October.

Generally speaking the winds of this monsoon are not as steady as those of the Northeast Monsoon. The most steady winds occur in July and August and attain a velocity of 10 to 15 knots. In S Palawan the close of the season of the Southwest Monsoon invariably brings strong and violent winds during the first days of October. A further transition period precedes the onset of the Northeast Monsoon.

Squalls and thunderstorms are prevalent during the Southwest Monsoon particularly near the land. Strong and squally SW or W winds (known locally as collas) sometimes blow for 10 days at a time during summer and early autumn.

These squalls are accompanied by a fine driving rain which has the density of mist in S Palawan.

Waterspouts are found between Palawan and the Cuyo Islands and occur in the coastal area N of Tami Point.

Typhoons move from E to W but are not frequent over the greater part of Palawan. The frequency increases with the latitude. Between the parallels of 8° to 11° N, only about 7 percent of the serious typhoons are experienced in the Palawan area.

Between the parallels of 11° to 13° 30'N, typhoons are more frequent and often more destructive. About 19 percent of the serious typhoons are experienced in this area which includes the N part of Palawan.

The main track of the typhoons moves progressively N from February until the middle part of August and then S again until January. This results in typhoons moving W of winter and spring generally striking the Philippines S of the parallel of 15° N.

In the N and S parts of Palawan there are two pronounced seasons, the dry season occurring in winter and spring and the wet season occurring in summer and autumn. In the central part of the E coast of Palawan there is no pronounced rainy season. There is a short dry season that lasts from 1 to 3 months. This season sometimes occurs between January and April. Often there is no rain during February and March.

Tides—Currents.—Tides are mainly diurnal, HW and LW occurring once a day. However, on a few days in each month there are two HW's and two LW's. At springs, from June to August, the highest tides are about 1.5m above datum. At these times the lowest water is about 0.2m below datum. Lowest tides occur at springs from December to February when the tide may fall nearly 0.5m below datum.

The currents off the E coast of Palawan depend chiefly on the force and direction of the prevailing wind. During the Northeast Monsoon the current sets strongly S between Palawan and the Cuyo Islands, the maximum velocity being about 1.5 knots. Because of this current, vessels bound for ports in China are advised to use Palawan Passage.

The flood current sets ESE and the ebb current sets WNW in the channel between Linapacan Island and adjacent islands and the N part of Palawan. The maximum rate is 3 knots.

Along the N part of the E coast of Palawan, the flood current sets S and the ebb current sets N. The maximum rate is 1.5 knots. The flood current sets SE along the S part of the E coast of Palawan.

The E current entering through Balabac Strait turns NNE well offshore of the E coast of Palawan and spreads itself like a fan over the Sulu Sea in a NE and E direction. It forms the E current between the Cuyo Islands and Panay. This current is reported to meet the flood current from Surigao Strait approximately on the meridian of the Cagayan Islands.

This area generally experiences medium to low seas and moderate to low swells from the NE from November to April. The most disturbed sea conditions occur during this period because wind velocities are higher than at any other time of the year. From May to October the sea and swell are predominately from the SW.

Caution.—Vessels not wishing to communicate with ports on the E coast of Palawan should give the coast a wide berth. Vessels bound for China should use Palawan Passage in preference to the E coast route.

The directions given for approaching and entering the various E coast ports are used by the surveying vessels and have been found safe, but they are not intended in any way to lessen the necessary precautions which are required by good seamanship in navigating through reef-strewn waters.

East Coast—Cabuli Point to Flechas Point

11.40 Cabuli Point (11° 25'N., 119° 30'E.), the NE extremity of Palawan, is located 1.75 miles ESE of Libro Point, the N extremity of the island. Cabuli Point is a wooded, high headland with steep cliffy shores. From this point the coast trends in a S direction about 63 miles to Flechas Point. In the intervening coast there are numerous coves and bays, with many off-lying islands and dangers.

Reefs, which bare at LW, are reported to lie up to 0.75 mile offshore. The 20m curve lies up to 8 miles offshore and encompasses several islands and shoal patches.

North Hill (11° 24'N., 119° 30'E.), with a flat summit, rises to a height of 285m just over 1 mile S of Cabuli Point, and a hill 294m high, 1.25 miles W, are both prominent. To the S of these hills lies a ridge rising to a height of 366m. The coast of the promontory is bold, with only two small stretches of mangroves on the E side, the rest is either rock or steep sandy beaches fringed with coral.

11.41 Cabuli Island (11° 26'N., 119° 30'E.) is separated from Cabuli Point by a narrow channel with a charted depth of 10.4m; a rock, awash, lies in the fairway. The island is 139m high, with a flat summit, and is steep-to on all sides.

Brother Islands (11° 24'N., 119° 31'E.), two islets, lie about 0.5 mile apart, with the N islet 1 mile SE of Cabuli Point. The channel between the two islets has a depth of 22m. Shoals lie off the S part of the S islet.

Darocotan Island (11° 22'N., 119° 32'E.), 70m high, lies 1 mile offshore, 1.75 miles SSE of Brother Islands.

Darocotan Point, a rocky headland rising to 206m, 0.75 mile S of its N extremity, forms the S entrance point to Darocotan Bay.

A shoal spit and detached shoal patches lie between the island and NW toward the mainland.

Rocks, awash, lie on a foul area extending 1 mile S from the island.

Anchorage can be taken, in depths of 14.6m, mud, in mid-channel between the W side of Darocotan Island and the village of Tiniguiban, about 1.25 miles WSW. The approach should be made from the NE by passing about 0.5 mile NW and W of the island. A least depth of 9.1m is found in this approach.

Darocotan Bay (11° 21'N., 119° 32'E.) is fringed by reefs and fronted by shoals. The S part of the bay is foul. There are two islets close N of Darocotan Point and two rocks lying as far as 2.5 miles SE of the point. A rock, awash, lies 4 miles SSE of the same point.

From **Darocotan Point** (11° 21'N., 119° 33'E.) the coast trends 8.5 miles S to Imorigue Bay, which is foul, and lies between the NW side of Batas Island and Palawan.

From the N entrance to Imorigue Bay the coast trends in a general S direction for a distance of 3 miles to Silanga Point.

The coast between these points is fronted by many islands and dangers.

11.42 East Peak (11˚18'N., 119˚32'E.) rises to a height of 525m, 3 miles SSW of Darocotan Point. It is a cone shaped mountain that is prominent from N and E, but not generally visible from W until a considerable distance offshore. Silanga Peak, 468m, lies 3 miles NNW of Silanga Point and Shark Fin Peak, 554m high, lies 5 miles WNW of Silanga Peak. A ridge extends 3.5 miles SSW to a sharp shoulder 335m high.

The islands and dangers lying within an imaginary line drawn in an ESE direction from the N extremity of Cabuli Island to the E end of **Barangonan Island** (11˚21'N., 119˚43'E.), then in a SSE direction to the E extremity of Dumaran Island, are described with related coastal features. Vessels not bound for the various bays or anchorages on the NE coast of Palawan usually pass seaward of these islands and dangers.

Linapacan Island (11˚27'N., 119˚49'E.), 13 miles ENE of Cabuli Point, is the largest of an extensive group of islets, rocks, islands, and reefs lying between the NE coast of Palawan and the S end of Culion Island.

The island has an extremely irregular coast which consists almost entirely of a series of bays separated by high steep and salient points. The head of the various bays have sandy beaches backed by mangroves. The island is rugged and mountainous.

Linapacan Strait and the islands and dangers N of Linapacan Island are described beginning in paragraph 10.22.

11.43 North Bay (11˚29'N., 119˚48'E.), entered SW of **Bulawan Point** (11˚31'N., 119˚49'E.), the steep-to N extremity of Linapacan Island, has an entrance about 2.5 miles wide. The bay, mostly deep with some 10.1 to 12.8m patches in the middle, is open to NW winds. The head of the bay is divided into three small coves by two projecting points.

Vanguardia Islet (11˚32'N., 119˚44'E.), a small, steep-to islet, lies in the immediate approach to North and Northwest Bays. The islet is a good landmark.

Alerta Rock (11˚31'N., 119˚45'E.), lying about midway between the entrances to North and Northwest Bay, is a good entrance landmark.

Above and below-water rocks lie on a bank which extends S and SE to a point on the coast. Several other off-lying dangers lie off the NW part of Linapacan Island. These dangers can be avoided by giving the coast a berth of not less than 1 mile.

Anchorage can be taken, in depths of 10m and over, in the middle of North Bay. Small craft anchor in the outer part of three coves at the head of the bay, in depths of 11 to 12.8m, mud.

11.44 Northwest Bay (11˚29'N., 119˚45'E.), close W of North Bay, has an entrance about 2 miles wide and general depths of 27 to 42m. A small, low island lying on the E side of the entrance constricts the entrance channel to a width of about 1 mile. The bay is open to NW winds.

Sheltered anchorage can be taken in the E arm of the bay in an area about 0.4 mile wide, where the depths are 33 to 35m, mud. Care must be taken to avoid the rocky spit extending from shore about 0.5 mile SE of the small, low island in the entrance.

The coast between Bulawan Point and the NE extremity of the island consists of a series of reef-filled coves, fronted by the 20m curve which trends about 0.2 mile offshore. The E coast, about 8 miles long, terminates at high, bold **Sidsid Point** (11˚23'N., 119˚50'E.). An above-water rock lies about 2 miles NE of the point, and a cluster of similar rocks lie 0.75 mile SW.

Patoyo Island (11˚30'N., 119˚53'E.), easily recognized by the twin peaks rising near its N end, is the largest of the three islands lying close off the NE end of Linapacan Island. The island is reef-fringed.

Maapdit Island and **Ile Island** (11˚29'N., 119˚52'E.), lying close together SW of Patoyo, form a small bay bound E and W by Patoyo and Linapacan Islands.

The channel between Patoyo and Maapdit Island is about 0.3 mile wide with a depth of about 35m in the middle. The small bay has an area of 0.2 mile with depths of 12.8 to 16.5m.

Anchorage, protected from SW winds, can be taken, in 24 to 31m, in the bay off the town of **San Miguel** (11˚30'N., 119˚52'E.). Moderate tide rips occur E of Ile Island.

Sabino Reef (11˚30'N., 120˚00'E.), Bacang Bank, Hidong Island, and Mayokuk Island are all dangers lying within 6 miles of the E side of Patayo Island.

The SW side of Linapacan Island is about 9 miles long between its NW end and **Sidsid Point** (11˚23'N., 119˚50'E.), its SE extremity.

11.45 Colaylayan Bay (11˚27'N., 119˚44'E.), entered 2 miles SE of the NW extremity of Linapacan Island, is reduced in size by fringing reefs; it affords good anchorage to small vessels, in a depth of 27m.

Cagdanao Island (11˚27'N., 119˚43'E.), and an islet 0.75 mile W, lie in the entrance of the bay. A deep, clear channel lies between Linapacan and Cagdanao Islands.

Gintu Island (11˚25'N., 119˚43'E.) lies 1.5 miles S of Cagdanao Island. Gintu is reef-fringed, with an islet lying 0.75 mile NNW of its N end. Rocks, reefs, and detached shoal patches, best seen on the chart, lie in the channel between Gintu Island and Calibang Island, lying about 3 miles W.

South Bay (11˚24'N., 119˚47'E.) is entered about 1 mile SE of **Bubulauan Point** (11˚24'N., 119˚46'E.), the W entrance point. Depths of over 18.3m exist in the middle of the bay which consists of two arms. The bay is reef-fringed and fronted by dangers including two islands lying close off the E shore. Foul ground extends almost 1 mile W of the E entrance point; Goson Reef, lying 1.25 miles SW of the same point, is an approach danger.

Sheltered anchorage can be taken in the outer part of the NE arm of South Bay, where there are depths of 26 to 33m, mud.

Base Rock (11˚33'N., 119˚39'E.), with two other above-water rocks, lie up to 6 miles NW of the NW end of Linapacan Island.

Malubutglubut Island (11˚30'N., 119˚41'E.) is separated from Linapacan Island by a deep channel clear of dangers except for a 16.5m, or less, shoal patch. A strong wind-driven current sets through the channel.

Three small islands lie on a reef extending 1.75 miles SW from the S end of Malubutglubut. Islets and a high rock lie close-off the SW island.

Calibang Island (11˚25'N., 119˚39'E.) is the largest island off the W side of Linapacan Island. Emilia Bay indents the N

side of the island. Rocks, above and below-water, lie N and as far as about 1.5 miles SE of Calibang Island. The channel E of the island is obstructed by detached shoal patches.

Barangonan Island (11˚21'N., 119˚42'E.) has a conspicuous double-peaked, barren hill on its SW side.

There are high hills on the E and NW sides of the island. A depth of 11m was reported to exist 0.2 mile SW of the SW end of the island. Dado Rock, with Dado Bank, lie 1.5 and 2.5 miles SE of the island. Primo Reef and Benito Shoal lie 10 and 8.5 miles SE and E, respectively, of Barangonan Island.

Ubaldo Reef, with a depth of 4.9m, lies 5.5 miles SE of Bagambangan Island (described in paragraph 11.44) and Bera Bank, over which a depth of 12.8m is charted. Bera Bank lies 2 miles W of Ubaldo Reef. These dangers are all steep-to.

Tejada Reef (11˚08'N., 119˚52'E.) is a small, steep-to shoal 5.5 miles SE of Ubaldo Reef. Filemon Bank, small and detached, lies 6.5 miles SW of Tejada Reef. All of these islands, rocks and reefs are shown on the chart.

11.46 The **Dalanganem Islands** (10˚40'N., 120˚15'E.) consisting of two islands and five islets, are rugged, rising vertically from the sea. They lie on the W side of Cuyo West Pass about midway between the NE coast of Palawan and the Cuyo Islands. Calandagan Island is the S and largest island of the group. Mount Dalanganem, at the S end of the island, is a triple-peaked ridge rising steeply, with its S and E slopes barren, showing large boulders along the lower slopes.

The N slope consists of a series of saw-toothed hills. Tudela, a village, stands on a neck of low land connecting the two parts of the island. Nasolot Island and an islet lie close N of Calandagan and appear as a continuation, although separated by a narrow, shallow channel.

Maducang Island, lying about 1 mile NNE of Calandagan Island, is separated by a channel 16.5m deep, which provides anchorage under the lee of either island.

Anas Islet, Casirahan Island, Cauayan Island, and **Cambari Island** (10˚33'N., 120˚05'E.) make up the remainder of the Dalanganem Islands. Cauayan Island, rising in sheer cliffs, lies 2 miles NNW of Casirahan.

Anchorage can be taken, in 16.5 to 20.1m, coral and sand, off the NE side of Calandagan Island. Vessels can also anchor, in 7.4 to 9.1m, on the shoal spit that extends 0.75 mile S of the SW end of the island. These are open roadsteads.

The coast between these two points is fronted by many islands and dangers. The 20m curve, lying from 1.25 to 5.5 miles offshore, encloses Batas and Maytiguid Islands. The shores, within the curve, are foul.

Iloc Island (11˚18'N., 119˚40'E.), 256m high, lies 6.25 miles ESE of Darocotan Point. The island has two distinct ranges of hills, separated by a valley; it is thickly wooded, but there is some cultivated land on the S side.

Reefs fringing the island contain rocks and islets off the N and E coast. Detached shoal patches extend off the N extremity of Iloc. Munoz Bay indents the NW side of the island and is backed by a mangrove swamp. A 2.1m shoal lies in the middle of the bay.

11.47 Bagambangan Island (11˚15'N., 119˚43'E.), 168m high, lies 1.75 miles SE of Iloc Island; it is wooded and fringed by a narrow reef. A rock, 23m high, lies close NE of the island and a rock 27m high, lies on the fringing reef on the W side.

Cone Rock (11˚13'N., 119˚42'E.), reddish in color, lies 0.75 mile off the SE side of the island.

Little Maosonon Island (11˚16'N., 119˚42'E.), 42m high, lies 0.7 mile NW of Bagambangan Island.

Maosonon Island, 94m high, partly cultivated, lies 1 mile SW. Both islands are fringed by reefs, except on the W side, which is steep-to; foul ground extends off the S side of each island.

Binulbulan Island (11˚15'N., 119˚38'E.), 2 miles SE of Iloc Island, may be identified by three distinct peaks which reach a height of 201m. Reefs and shoals encircle the island and foul ground extends 1 mile SSE from the island.

A rocky islet, 47m high, stands on the S extremity of the foul ground, with a 31m islet 0.5 mile N of the above islet.

Deribongan Island (11˚11'N., 119˚40'E.), 100m high, is a small, reef-fringed island situated 3.75 miles SE of Binulbulan Island. An islet, 37m high, surrounded by foul ground, lies 1 mile NNE of Deribongan.

Batas Island (11˚10'N., 119˚35'E.), 1 mile off Palawan, has two densely wooded peaks; the W one reaches a height of 444m. The island, fringed by reefs, is encircled by many shoals and above and below water rocks.

Imorigue Bay, mostly foul, lies between the NW side of Batas and Palawan.

Malonao Rock (11˚13'N., 119˚35'E.) lies in the bay entrance.

Imorigue Island (11˚10'N., 119˚33'E.), rising vertically, lies midway between Batas and Palawan.

Talaotauan Island (11˚10'N., 119˚32'E.), lying close W of Imorigue Island, is separated from Palawan by a tortuous channel, 0.15 mile wide and 9.1 to 12.8m deep, that connects Imorigue Bay with Shark Fin Bay.

The channel between Talaotauan and Imorigue Island is 0.1 mile wide and 3.7m deep.

Maytiguid Island (11˚03'N., 119˚36'E.), 335m high in its S part, lies 2.5 miles S of Batas Island and is separated from Palawan by Tanguingui Channel, which is foul and has a least width of about 0.1 mile. The shores are fringed with mangroves, except at the various reefs which extend up to 1.25 miles offshore.

11.48 Shark Fin Bay (11˚07'N., 119˚35'E.) is formed by Batas, Maytiguid, and the adjacent coast of Palawan.

The bay, 6.5 miles long and 2.5 miles wide, has an irregular shoreline mostly fringed by mangroves fronted by coral reefs.

There are numerous detached reefs and shoals on the N and S sides of the bay which is entered through channels from N, NE, and S.

Depths of 14.6 to 37m exist in clear areas leading to the head of the bay, and at least 13m in the NW corner anchorage area.

Oton (11˚07'N., 119˚30'E.), a village, is located on the shore W of the anchorage.

In the bay, dangers include a detached reef, with several above and below-water rocks nearby, lying 1 mile S of the SW extremity of Batas Island.

Two rocks, awash, lie 1 and 1.5 miles SW of the same point with **Macuao Islet** (11˚07'N., 119˚32'E.) lying 2 miles SW.

Reefs and foul ground extending N and NE from the islet constrict the channel reach leading to the anchorage.

Foul ground and a rock, awash, lie about 1 mile and 2.5 miles N and NNE of the NE end of Maytiguid Island. The fairway leads between these dangers.

Miraya Islet (11°09'N., 119°38'E.), with attendant rocks, reefs and shoals, lies close to the channel within the NE entrance to the bay.

Maalequequen Island (11°10'N., 119°39'E.) lies at the NE entrance and close E of the channel. The area between the island and **Cagdanao Island** (11°10'N., 119°40'E.) is foul.

Dinit Island (11°01'N., 119°40'E.), in the S approach to Shark Fin Bay, constricts the channel to a least width of 1 mile.

There are numerous islands, rocky shoals, and detached patches, best seen on the chart, lying near the approach channels to Shark Fin Bay.

Anchorage can be taken about 1 mile SSW of the S end of Imorigue Island, in depths of 14.6 to 18.3m, mud, with the SW extremity of Batas Island bearing 100°. Smaller vessels can anchor about 0.7 mile NE of Oton, in 7.3m, mud. These anchorages are considered to be the best in this part of Palawan during the typhoon season.

Directions.—Vessels from N should pass in mid-channel between Binulbulan Island and Iloc Island and then pass in mid-channel between the 47.3m islet, located 1 mile SSE of Binulbulan Island, and the 12.5m patch 1.75 miles E. Then they should pass about 0.7 mile E of the E extremity of Batas Island, being careful to avoid the 10m patch located 1.7 miles W of Deribongan Island.

Miraya Islet, in range 192° with the sharp, double pointed peak showing midway in the mountain gap to the S, leads in mid-channel between Batas Island and Maalequequen Island. When the N end of the latter island bears 045°, the course should be altered to 225°, passing about 0.4 mile W of Miraya Islet.

When on range, bearing 251°, between Miraya Islet and Macuao Island, with the S tangent of Batas Island bearing 270°, the course should be altered to about 248°, keeping the N tangent of Miraya Islet dead astern. Vessels are cautioned against getting N of this range because of the many dangers on the N side of the bay.

When the SW tangent of Imorigue Island bears 340°, steer for it until **Malapari** (11°09'N., 119°33'E.) bears 070°.

Then the course should be altered to 280° for a distance of 0.5 or 0.75 mile to the recommended anchorage.

Vessels from S should pass in mid-channel between Dadaliten Island and Binatican Island. Then they should pass either E or W of the reef that lies 2 miles SW of **Dadaliten Island** (11°00'N., 119°42'E.).

Having cleared this reef, vessels should alter course so as to pass in mid-channel between Dinit Island and the SE end of Maytiguid Island. Then a course of 000° should be steered until the S tangent of Malotamban Island bears 090°. Then the course should be altered to 315°, with the 444m summit of Batas Island ahead.

When Miraya Island bears 045°, the course should be altered to 260° with Macuao Island ahead. This course should be held until the SW tangent of Imorigue Island bears 340°, then the directions given previously should be followed.

11.49 Taytay Bay (10°55'N., 119°33'E.) is entered between Negra Point, the S extremity of Maytiguid Island, and **Santa Cruz Point** (10°49'N., 119°36'E.) 10.5 miles SSW

Nabat Island, 69m high, lies close S of Negra Point; tide rips form in this area. The bay is cluttered by numerous islands, islets, rocks, and detached shoals.

These dangers restrict the navigable channels and are best seen on the chart. Reefs fringe the shore and are fronted by shoals extending up to 2 miles offshore; the shores are mostly mangrove fringed.

A mountain range, with several prominent peaks from 430 to 460m high, extends parallel with the W coast of Taytay Bay, about 2 miles inland.

Depths are ample for coastal vessels in the constricted channels leading to anchorages off the local villages, and the town of **Taytay** (10°50'N., 119°31'E.), which has an old Spanish fort that is prominent, where medical services are available.

Silanga Bay (11°01'N., 119°35'E.) is located in the N part of Taytay Bay, and is formed between Maytiguid Island and Silanga Point. The N and E parts of the bay are foul and the W shore is fringed by a drying coral reef.

Depths of 22 to 29m exist in the outer part of the bay, clear of a 3.2m shoal patch.

Anchorage can be taken in Silanga Bay, about 0.75 mile SE of Silanga, in depths of 18.3 to 22m, mud.

Mesecoy Bay, located in the NW side of Taytay Bay, lies close W of Silanga Point.

11.50 Binatican Island (10°57'N., 119°43'E.), about 5 miles SE of Negra Point, rises to a height of 174m near its N end, and a height of 101m near its S end. The land between these two heights is low.

Apulit Island (10°57'N., 119°37'E.), 5.25 miles W of Binatican Island, is 178m high. Reefs and foul ground extend 0.75 miles W and 1.5 miles E to Royalist Reef, which has a least depth of 1.2m.

Pabellon Islands, 2.75 miles S of Apulit Island, consists of Elephant Island, 197m high, and Castle Island, 189m high. Dangerous shoals extend 1 mile E from Elephant Island, and dangerous isolated shoals lie 2.5 miles WNW of the same island.

One of the dangers in the SE approach to Taytay Bay is **Icadambanauan Island** (10°49'N., 119°38'E.), about 1 mile E of Santa Cruz, which has two hills. The hill farthest S rises to a height of 156m. A white rock, 15.2m high, lies 0.25 mile SW of a wooded islet, 91m high, lying 0.3 mile SE from the island.

11.51 Hart Reef (10°48'N., 119°52'E.) is a large area of shoal ground extending in a N-S direction with the least depth, a 1m patch, lying 13 miles E of the S end of Icadambanauan Island. The approach channel leading to Taytay passes 1 mile N of the N edge of Hart Reef.

There are three detached patches, with a least depth of 4m, lying in the area about 5.5 miles E of the above-named island and SE of the channel. A 3.6m patch lies 2 miles S of the island and 0.5 mile S of the fairway.

Directions.—The best channel for entering Taytay Bay leads between Binatican Island and **Debangan Island** (11°01'N.,

119° 44'E.), 3 miles NNE. From a position about 1 mile S of Debangan Island, steer 250° for the S end of Apulit Island.

When Nabat Island bears 315°, change course to 207°, with the E tangent of **Castle Island** (10° 53'N., 119° 37'E.) ahead.

When the S tangent of Apulit Island bears 270°, change course to 233°, passing between Apulit and Elephant Islands, and continue on course to the anchorage about 1.5 miles E of **Taytay Head** (10° 52'N., 119° 30'E.).

Vessels approaching from Shark Fin Bay, steer 180° from a position 0.5 mile W of Dinit Island. When the S end of Apulit Island bears 270°, change course to 233° for the anchorage off Taytay Head.

Vessels bound for the anchorage in the N part of Taytay Bay should pass Dinit Island, as above, and when **Nabat Island** (10° 59'N., 119° 38'E.) bears 300°, steer 266° passing 0.5 mile S of that island for a distance of about 4.7 miles.

Pass midway between a small island on the N and a rock that bares, 1 mile S. From between these two dangers steer 256° to the anchorage 0.45 mile S of **Talacanen Island** (10° 58'N., 119° 32'E.).

On a S approach to this anchorage, a vessel should pass 1 mile S of Apulit Island and steer for the E end of Talacanen Island on course 297°.

With the E end of Talacanen ahead, about 0.9 mile distant, change course to 270° and proceed to the anchorage.

Vessels entering Taytay Bay from S should steer for the summit of **Calabadian Island** (10° 52'N., 119° 38'E.), 0.75 mile N of Icadambanauan Island, on a course of 270° which leads N of Hart Reef.

When Calabucay Island, about 3.5 miles SSE of Icadambanauan Island, bears 225°, the course should be altered to that bearing until the S tangent of Icadambanauan bears 271°.

The course should be altered to 254° and held until the W tangent of Icadambanauan bears 354°, when a course of 345° should be steered.

When the 335m peak in the S part of Maytiguid Island bears 359°, it should be steered for on that bearing.

This course leads midway between the W extremity of Icadambanauan Island and an isolated shoal patch, with a depth of 0.3m, 0.7 mile NE of Santa Cruz Point.

When the N tangent of Icadambanauan Island bears 091°, the course should be altered to 315° for about 1.5 miles and then altered to 275° for about 3.5 miles to the anchorage. Caution should be used to keep N of a line joining Taytay Head with the S end of Caladian Island in making the initial approach to the anchorage.

Vessels can take anchorage, in depths of 33 to 37m, mud, with **Taytay Head** (10° 52'N., 119° 30'E.) bearing 273°, and the fort at Taytay bearing 211°.

11.52 From Santa Cruz to **Esfuerzo Point** (10° 31'N., 119° 43'E.), about 19 miles SSE, the general trend of the coast is SSE. The coast is indented by several inlets and bays and is fronted by small islands, detached shoals, and reefs. High, wooded mountains lie close to mangrove lined shores on this coast. The several salient points are rocky.

Limbangan Point (10° 44'N., 119° 36'E.) lies 5.25 miles S of Santa Cruz Point; there are three shallow coves formed between these points. Foul ground, with depths of 0.3m, lie up to 1 mile offshore.

Calauag Bay (10° 42'N., 119° 36'E.) is entered between Limbangan Point and Pangkang Point, 3.25 miles SE.

Bay Point (10° 40'N., 119° 40'E.), 2.75 miles SE of Pangkang Point, is the E extremity of a rugged peninsula that forms the S side of the bay entrance. Local knowledge is necessary to enter the bay because of the many dangers.

Depths of 11 to 29m exist in the narrow channel leading to the head of the bay. Foul ground extends nearly 1 mile N and 1.25 miles NE from Pangkang Point, close to the entrance channel.

Ibobor Island (10° 43'N., 119° 38'E.), rising to a height of 183m, lies on foul ground in the entrance to Calauag Bay, about 1.2 miles N of Pangkang Point. The entrance channel, S of the island, is about 0.2 mile between the foul ground.

Cagdanao Island lies 0.5 mile N of Ibobor; foul ground lies between these islands. A dangerous coral reef, with a depth of 0.3m, lies 0.5 mile NE of Cagdanao. The channel from Taytay Bay passes between the island and reef and then SE, changing course to a W direction to pass S of Ibobor Island to the anchorage in Calauag Bay.

Anchorage can be taken in the SW part of Calauag Bay, midway between Tomandang Island and Babarocon Island, in depths of 11 to 12.8m, mud. Local knowledge is required to enter the bay.

Paly Island (10° 42'N., 119° 42'E.), 186m high, is located 3 miles ENE of Pangkang Point. The outer slopes of the island are steep-to and sparsely wooded. The coast is rocky, with stretches of sand, shingle or boulders.

Shoals lie N, E, and S of the island. The W side of the island is steep-to except for a 0.9m shoal lying 1.25 miles from the N extremity.

From Bay Point to **Esfuerzo Point** (10° 31'N., 119° 43'E.), 9 miles SSE, the coast is indented by numerous coves and is fronted by shoal water.

Isolated shoal patches, which may be seen on the chart, lie off this coast.

11.53 The coast between Esfuerzo Point and **Flechas Point** (10° 22'N., 119° 34'E.), 12.5 miles SW, is fronted by numerous shoals and reefs which lie up to 8 miles offshore. Densely wooded mountains, with well defined peaks, lie along the coast in the vicinity of Flechas Point.

Drake Peak (10° 30'N., 119° 37'E.), 384m high, rises 5.75 miles W of Esfuerzo Point. Mount Baring, 626m high, and Mount Ilian, 661m high, lie 2.5 and 3.75 miles NNW, respectively, from Flechas Point.

Dumaran Island (10° 30'N., 119° 50'E.) is a large irregularly shaped hilly island, 206m high, separated from Esfuerzo Point by Dumaran Channel. The island has no conspicuous features; the hills are mostly 75 to 150m high. The coast is mainly fringed with mangroves, with drying reefs on nearly all sides.

Numerous dangers lie between Dumaran Island and the coast of Palawan, with some of the rocks and reefs which bare at LW. A shoal, with a depth of 4.8m, the position of which is doubtful, has been reported 4.5 miles SE of Calasag Point on the S side of the island.

11.54 **Pirata Head** (10° 34'N., 120° 00'E.), the E extremity of Dumaran Island, is 72m high and wooded. A drying reef

extends 1 mile SSE from the point to Maraquit Island, and 11.5 miles WNW to North Point.

North Point (10° 39'N., 119° 50'E.), the N extremity of Dumaran Island, is prominent and terminates in a white cliff. The point is steep-to on its N and W sides and affords good protection in the Northeast Monsoon, but shoals and foul ground extend 3.5 miles ENE from its E face.

The NW side of the island from North Point to **Dumaran Point** (10° 31'N., 119° 45'E.), 9.25 miles SSW, is fronted by numerous islets, reefs, and rocky shoals.

The area N and NW of North Point, as far as Cacbucao Island, about 2.5 miles N, and Paly island, 8 miles WNW, is also filled with dangerous shoals and reefs, which may best be seen on the chart. Navigable channels lead through these dangers.

11.55 Cotad Island (10° 32'N., 120° 01'E.), 105m high, is separated from Maraquit Island by a channel 0.4 mile wide between the shoals lying off each island.

Cambari Island lies 4 miles ENE of Cotad. Cambari Island is 70m high and has bare overhanging cliffs on its W side.

Langoy Island (10° 30'N., 120° 00'E.), 100m high, is marked by a light on its summit. Mantulali Island is located about midway between Langoy and Cotad islands.

There are two shoal patches between Cotad and Mantulali, with depths of 2.1m and 5.5m. The channel between Mantulali and Langoy is clear of dangers.

Cynthia Bay (10° 33'N., 119° 59'E.) is entered SW of Maraquit Island. Its shores are fringed by mangroves and drying coral shoals extending offshore.

Baliog Point (10° 32'N., 119° 59'E.) is the S entrance point. Araceli, a town on Araceli Point, has a dispensary with a physician. The town, located 1.25 miles SW of Pirata Head, is nearly obscured by coconut trees.

Araceli Point (10° 33'N., 119° 59'E.), a low bluff, is the E entrance point of Araceli Bay which lies NW of town. Araceli Reef, with a depth of 0.5m, lies 0.5 mile E of Baliog Point and is marked by a red conical buoy.

A drying reef, on which lie large boulders and a prominent rock at its S extremity, extends 0.5 mile S of town and forms protection to the anchorage. The remains of a stranded wreck lies 0.25 mile W of the rock.

Araceli Bay, NW of town, is a N basin that forms an excellent typhoon anchorage for small vessels, in depths of 3.7 to 5.5m. The channel leading to the N basin has a least depth of 3.7m.

At Araceli a jetty extends from the shore to the edge of the reef.

Anchorage can be taken, in depths of 7.3 to 9.1m, mud, in a S basin about 0.5 mile SW of Araceli Point.

Vessels are recommended to approach the anchorage between Langoy and Mantulali Islands and then pass W of Araceli Reef. The conspicuous rock, S of Araceli Point, aligned with tuft on a hill 3 miles inland, bearing 346°, leads W of the reef.

11.56 Bacaran Bay (10° 31'N., 119° 56'E.), **Langcan Bay** (10° 31'N., 119° 55'E.) and **Calasag Bay** (10° 28'N., 119° 53'E.) are adjoining bays separated by blunt, wooded promontories. The shores of the bays are generally lined by mangroves and fronted by above and below-water coral reefs.

The inner or N part of the bays are foul and filled with mud flats. There are depths of 5.5 to 12.8m in the middle and outer areas of the bays. Several sunken dangers, coral heads, and pinnacle rocks, with depths of 2 to 5.5m, lie up to 3 miles offshore in the approaches.

There are several towns, the largest **Bohol** (10° 29'N., 119° 53'E.), located on the various shores of the three bays.

Langcan Point (10° 31'N., 119° 55'E.) is a prominent landmark.

In Langcan Bay, there is anchorage SW of Dagsauay, a village, in a depth of 5.5m, mud. In Calasag Bay there is anchorage NNE of Calasag Point, in depths of about 7.3 to 9.1m. These anchorages are sheltered from the Northeast Monsoon.

From Calasag Point the S coast of Dumaran Island trends WSW about 6 miles to **Piyaui Point** (10° 27'N., 119° 46'E.), the SW extremity of the island.

Between **Calasag Point** (10° 28'N., 119° 52'E.) and **Maranog Point** (10° 27'N., 119° 48'E.) the shore is very densely wooded, high, and fringed with several coral reefs. Dangerous shoals lie up to 1.5 miles offshore.

Sharp Hill (10° 27'N., 119° 50'E.), standing close to shore, is a prominent landmark for vessels approaching from the S. A shoal, with a depth of 4.8m, the position of which is doubtful, has been reported 4.5 miles SE of Calasag Point.

From Maranog Point to Pivaui Point, the coast is low, sandy, and reef-fringed. Detached reefs lie up to 2 miles off the latter point.

A large shoal area, with a least depth of 3.3m, lies over 3 miles S and SSW of Sharp Hill.

Dumaran Point (10° 31'N., 119° 45'E.), 4.75 miles NNW of Piyaui Point, is the W extremity of Dumaran Island.

The coast to **Dumaran** (10° 32'N., 119° 46'E.), a village, is fringed with mangroves fronted by coral reef, bare at LW. A foul, small bay is formed between Dumaran and Dumaran Point.

Anchorage, with local knowledge, can be taken in 5.5 to 7.3m, mud, in the bay but the approach is difficult.

11.57 Dumaran Channel (10° 30'N., 119° 44'E.), between Dumaran Island and Esfuerzo Point, is much contracted by reefs, rocks, and shoals. Numerous dangers lie in the N and S approaches to the channel and there are several islets and reefs in the N entrance of the channel.

There are deep, unmarked channels leading between these dangers. A channel from E, leading to the approach channels to Calauag Bay and Dumaran Channel, passes S of the dangers between Paly Island and North Point.

However, there is a detached reef, with a least depth of 2.7m, on the S side of the channel about 2.7 miles SE of Paly Island. Another dangerous reef, with a least depth of 0.6m, lies 1.5 miles SE of **Bay Point** (10° 40'N., 119° 40'E.).

Mayabacan Island, Central Island, Bivouac Island, North Channel Island, South Channel Island, Capsalon Island, Maruyogruyog Island, and South Island all lie in the N entrance of Dumaran Channel .

All these islands are encircled by reefs and foul ground which may be navigated with local knowledge.

Capayas (10° 28'N., 119° 39'E.), situated on the coast 5 miles SW of Esfuerzo Point, has buildings that are conspicuous from offshore; above and below-water reefs lie over 1 mile off the town. Capayas Reef, a large area that dries, lies 1 to 3 miles ESE of town. Alvina Reef lies 1.25 miles S of Capayas Reef.

Anchorage can be taken in mid-channel between Capayas and Capayas Reef, depth of 11 to 12.8m, mud.

East Coast—Flechas Point to Maasin Point

11.58 From Flechas Point, the E coast of Palawan trends in a SW direction about 77 miles to Maasin Point. Green Island Bay and Puerto Princesa, the most important port on this coast, are situated on this coast. Steep-to shoals lie up to 20 miles offshore.

Flechas Point (10° 22'N., 119° 34'E.), a steep bare point, is the termination of a spur from Mount Baring. From S and SE the point appears to merge into higher mountains inland and is not prominent. The coast W of the point consists of rocky, steep bluffs.

Bay Peak (10° 23'N., 119° 31'E.), 547m high, rises 3.5 miles W of Flechas Point.

The coast between Flechas Point and **Bold Point** (10° 02'N., 119° 08'E.) is regular, with sandy stretches interspersed by river mouths.

There are several villages. A sharp, conical hill located almost 2 miles NW of **Rizal** (10° 14'N., 119° 15'E.) is an excellent landmark as is a conical peak, wooded and with a small knob on its W side, rising 10.5 miles W of Bay Peak.

Roxas, a town close within **Barbacan Point** (10° 19'N., 119° 21'E.), has an airstrip 1.25 miles NNE of the same point. Copra and cattle are exported via inter-island vessels.

Caramay (10° 11'N., 119° 14'E.) is a port of call for coastal vessels. Dangers fronting the coast between Flechas Point and Bold Point are best seen on the chart.

North Verde Island (10° 06'N., 119° 14'E.) and **South Verde Island** (10° 05'N., 119° 14'E.), low and flat, are separated from Palawan by the narrow, tortuous **Pascoe Channel** (10° 07'N., 119° 14'E.).

The N end of the channel is fouled by an extensive above and below-water reef which divides the channel into two passages. The W passage is preferred. The S entrance to the channel lies between the N end of South Verde Island and a reef. The unmarked channel and entrance should not be attempted without local knowledge.

11.59 Green Island Bay (10° 10'N., 119° 20'E.), a large open bay of varying depths, contains numerous islands, banks, and shoals. High mountains, obscured by clouds except for their peaks, back the bay. Bold Point, about 32 miles from Flechas Point, forms the SW entrance point of the bay. Under favorable conditions the bottom is visible at 14.6m, but depth changes occur with very little warning. There are many shoals lying as far as 14 miles offshore.

The intricate, unmarked inner passages leading to anchorages in Green Island and Honda Bays have least depths of 9.1m, and should only be used when local knowledge is available.

A light is shown in position 10° 19.1'N, 119° 21.0'E.

Green Island (10° 16'N., 119° 30'E.) and **Johnson Island** (10° 15'N., 119° 23'E.), two of the many small islands and islets in the bay, are visible from 6 to 8 miles offshore.

The other islets and attendant dangers are best seen on the chart. Many of the islets afford good landmarks for vessels in transit of the channels leading to the various anchorages.

Anchorages off the shores of Green Island Bay are partially protected from the sea by the reefs and shoals.

Vessels bound for **Taradungan** (10° 22'N., 119° 32'E.) and **Tumarbong** (10° 23'N., 119° 27'E.) anchor 1 to 2 miles off these villages, in depths of 5.5 to 7.3m.

There is good anchorage NW of **Shell Island** (10° 18'N., 119° 23'E.), in 5.5 to 9.1m, mud. Vessels can anchor, in 5.5 to 7.3m, mud and sand, between **Stanlake Island** (10° 15'N., 119° 20'E.) and **Malcampo** (10° 17'N., 119° 17'E.).

Vessels bound for **Rizal** (10° 14'N., 119° 15'E.) can ancho,r in 5.5 to 9.1m, about 1 mile SE of town.

Vessels can also anchor, in 5.5 to 11m, mud, between **Reinard Island** (10° 09'N., 119° 15'E.) and Caramay, or in 20.1m, between the island and Palawan.

There is excellent typhoon anchorage, in 11m, in the N part of Pascoe Channel, W of N Verde Island.

Off-lying dangers include **Charybdis Shoal** (10° 02'N., 119° 32'E.), a small reef with a least depth of 3.4m, which lies about 18.5 miles ESE of South Verde Island.

Constancia Shoal, with a least depth of 3m, lying 7.5 miles SW of Charybdis Shoal; Pasig Shoal, with a depth of 1.8m, lying on the same foul ground as Constancia Shoal, and 5.5 miles SE of that shoal.

Pasig Shoal is steep-to on its E side. West Pasig Shoal is isolated, with a least depth of 3.7m, located 4 miles WSW of Constancia Shoal.

11.60 Bold Point (10° 02'N., 119° 09'E.), 4 miles SW of South Verde Island, may be identified by Sharp Peak and Dome Peak, each about 915m high, standing from 2 to 2.5 miles N.

A bold range of hills backs the coast from Bold Point, which is steep and rocky. In places steep cliffs slope down to the beach. There are several rivers and minor points along this coast.

Mangrove Point (10° 01'N., 119° 04'E.), 4.5 miles W of Bold Point, has the only prominent clump of mangroves along this part of the coast. Emmit Point, 0.6 mile WSW of Mangrove Point, is higher, but not conspicuous. Coral reefs extend 0.3 mile from both points; a sheltered cove, suitable for small craft, lies between them.

Pasco Point (10° 00'N., 119° 01'E.), 2.75 miles WSW of Emmit Point, is low with a few scattered mangroves. A shoal, with a depth of 1.5m, lies midway between Mangrove and Pasco Points.

Panglima Reef (9° 56'N., 119° 04'E.), with a depth of 5.5m, lies 4.75 miles SE of Pasco Point. An extensive bank, with a least depth of 1.5m, lies 2.5 miles S of Pasco Point.

Tanabag, a small village 1.5 miles W of Pasco Point, is not visible from seaward. A reef, awash, lies 0.75 mile SW of the entrance to the river which flows out by the village.

Castillo Point (9° 59'N., 118° 56'E.), 4.75 miles W of Pasco Point, has a rocky protuberance on the brow of the hill backing it. The hill marks the W end of the coastal range.

Honda Bay (9°50'N., 118°50'E.) is a large bight between Castillo Point and Bancaobancaon Point, about 19 miles SW. The N shore of the bay is backed by high hills as far as Addison Point, about 8.5 miles WSW of Castillo Point; low hills back the remainder of the bay.

There are numerous islands, banks, shoals and reefs, with navigable channels between them, in the bay and up to 10 miles offshore. The N shore of the bay consists of sand and coral beaches, while its head and W shores are fringed with mangrove fronted by mud and coral reef.

Tapul Bay (9°56'N., 118°47'E.) and **Mangrove Inlet** (9°55'N., 118°45'E.), mostly foul, are fronted by numerous dangers. Bush Island lies in the entrance of Tapul Bay. The entrance channel lies between the island and a drying reef extending off **Addison Point** (9°56'N., 118°48'E.). The village of Tapul is located on a river emptying into the bay.

11.61 Fondeado Island (9°56'N., 118°55'E.), high and reef-fringed, lies at the S end of numerous drying reefs between the island and shore. Detached shoals, best seen on the chart, lie as far as 4 miles E and SE of the island.

There are above and below-water reefs off **Pasco Point** (10°00'N., 119°01'E.), and about 4 miles W of **Arrecife Island** (9°55'N., 118°53'E.), which lies on a drying reef.

Dangerous patches, lying 2.5 and 3 miles SW and S of the island, are close to the approach channels leading to anchorages. The entire area between Arrecife and the shores N, W, and SW is generally foul with several deep channels.

Anchorage.—Vessels can anchor in 20.1m, mud, with the SE point of Fondeado Island bearing 240° and Pasco Point bearing 012°. The approach should be made from the S, with the 936m peak located about 2.5 miles N of the mouth of the **Tinabog River** (10°00'N., 118°59'E.), ahead on a course of 351°. When about 2 miles from the river mouth, the course should be altered to the NNE for the anchorage.

Vessels with local knowledge can anchor, in 12.8 to 18.3m, S of the entrance of the Tinabog River, with the reef awash SW of the entrance bearing 270°, distant 0.5 mile.

Vessels with local knowledge can anchor, in 16.5 to 18.3m, sand, in a position about 0.5 mile N of the extremity of Fondeado Island, between the island and an extensive drying reef to the NE. Anchorage can also be taken, in about 29m, in a position about 0.5 mile SW of the W extremity of the island.

Vessels with local knowledge can anchor, in 11 to 18.3m, from 1 mile to 1.5 miles S of the mouth of the Babuyan River, or they can anchor, in 9.1 or 11m, mud, in the NE part of Tapul Bay.

11.62 Puerto Princesa (9°44'N., 118°44'E.) (World Port Index No. 59270), the port city, is situated within the N entrance of the bay on the E side.

The bay opens off the S end of Honda Bay and is entered between Bancaobancaon Point and Panagtaran Point, 2 miles S.

Puerto Princesa is the capital and only important port on Palawan Island; it is a Port of Entry. Requests for pilotage, which is compulsory, should be communicated to the port authority at least 24 hours before arrival. The pilots boarding station is located 0.8 mile SSW of Tidepole Light.

The shores of the bay are densely wooded and are backed by a chain of mountains. Several rivers empty into the bay; the Iwahig River lies W of Puerto Princesa City.

Depths in the approach to Puerto Princesa are charted over 55m, and depths of 20 to 27m are charted off the pierhead at Puerto Princesa City. The entrance to the bay is constricted to 0.8 mile between the reefs on either side.

A concrete T-shaped pier extends about 130m NW from the shore close N of Princesa Point; the berthing face is reported to be 192m in length with a depth of 8.2m alongside.

Storm signals are shown from a mast at the foot of the pier. Vessels coming alongside this berth should be aware of the two piles located 110m NE of the pier head.

It was reported that two fixed red lights are shown from the top of a water tank standing close NE of the root of the pier.

An ore loading installation is located on the N shore, 1.5 miles W of Bancaobancaon Point; it consists of a wooden pier, with a depth of 1.8m alongside its head.

11.63 Gedeon Shoal (9°45'N., 118°43'E.), with a depth of 0.9m, lies 0.4 mile W of the pier head at Puerto Princesa. A 3.3m shoal lies 0.5 mile WSW of the pier. A 0.9m shoal lies 0.6 mile NW of the pierhead. Foul ground lies NNW of a line passing through this shoal and the entrance to the Iwahig River. A 0.9m shoal reported (1993) 0.6 mile WSW of Tidepole Point. Vinagre Reef, with rocks awash, lies 1.25 miles SSW of Gedeon Shoal. An isolated patch, with a depth of 5.1m, lies outside the 18.3 line 0.5 mile E of the rocks awash.

In the approach to Puerto Princesa, **Table Head** (9°39'N., 118°44'E.), 3 miles SW of Panagtaran Point, is a good coastal landmark. Mount Beaufort, 11 miles NW of Bancaobancaon Point and Thumb Peak, 2.75 miles SSW of Mount Beaufort, are prominent when not obscured by clouds.

Thumb Peak from SE appears as a steep conical mountain with a knob on the summit. The twin spires of the church, 2.5 miles WNW of Bancaobancaon Point, are conspicuous. A light is shown from a concrete tower, 11m high, situated on the point. A wreck lies close SW.

The point is fringed with mangroves. These mangroves nearly extend to Tidepole Point, a reddish cliff 6m high, 2 miles WNW. A light is shown on this point from a white, metal framework tower on a white house, 8m high.

Vessels can anchor N of the pierhead, in depths from 16 to 18m, mud. It is well protected and is recommended as a good typhoon anchorage. Two anchor berths, A1 and A2, have been established 0.8 mile W and 0.75 mile SW of Tidepole Point.

Berth A1 is reported to be for use by vessels of less than 1,000 dwt, in a depth of about 20m, while A2 is for vessels of more than 1,000 dwt, in a depth of about 25m.

A quarantine anchorage has been established 1 mile WNW of Tidepole Point.

In the approach to Puerto Princesa, vessels should steer to a position about 3 miles SE of the light on Bancaobancaon Point and then steer 304° for the light on **Tidepole Point** (9°44'N., 118°44'E.).

When mid-channel between the entrance points, change course to 290° until the light bears 040°, when course should be changed to 349°. When the pier head at Princesa Point bears 079°, steer for the inner anchorage as required.

It should be noted that in a night approach the lights at Canigaran, 1 mile N of Bancaobancaon Point, are visible long before the lights in Puerto Princesa.

From **Panagtaran Point** (9°41'N., 118°46'E.) the coast trends SSW about 3 miles to Table Head, which stands 0.2 mile inland and rises to a height of 167m. Table Head is the termination of a gradually ascending range of hills extending SW.

11.64 Binunsalian Bay (9°39'N., 118°44'E.), entered close N of Table Head, is foul and is exposed to the winds. From the head of the bay, a narrow channel leads to Turtle Bay, which affords excellent Anchorage for small craft with local knowledge, in a depth of 11m.

The coast from Table Head to the S is backed by steeply rising ground as far as **Tagbarunis Point** (9°34'N., 118°40'E.), low and covered with mangroves. A conical peak, rising 4.5 miles W of the point, is conspicuous.

A widening bank leading S in the vicinity of the point extends 3.5 miles offshore and contains dangerous shoal patches. Tide rips often mark the edge of the bank. Off **Inagauan** (9°33'N., 118°39'E.), a coastal village backed by a plain and fronted by a sandy beach, there is anchorage, in 9.1m, mud.

When approaching this anchorage from E, care must be taken to avoid the shoals, with depths from 5.5 to 9m, which lie on a spit extending 3 miles SSE from the mouth of the Inagawan River.

East Coast—Maasin Point to Cape Buliluyan

11.65 The general trend of the coast, from Maasin Point to Cape Buliluyan, is SW. In places the coast between the points is low and fringed with mangroves.

Numerous drying reefs lie within the 20m curve and there are many isolated patches outside the curve with least depths of 0.9m.

Inner passages leading to the various anchorages along this coast have depths of over 9.1m, however, local knowledge is required to transit these unmarked, intricate passages.

The flood current sets SE along this coast. The E current entering through Balabac Strait turns NNE well off this coast and spreads fanlike over the Sulu Sea in a NE and E direction.

Maasin Point (9°30'N., 118°38'E.) is low and covered with mangroves; a drying reef fringes the point. The coast between the two points is also low and fringed with mangroves. Numerous dry reefs and shoals lie within the 20m curve which lies 1 to 3 miles offshore. A 4.9m patch lies 2.25 miles SE of Maasin Point.

Village Bay, entered between Maasin Point and Puntog Islands, 1 mile SSW, is encumbered with coral reefs making it unsafe to enter. Puntog Islands are two small mangrove islands lying close offshore on the coastal bank.

A reef, which dries at low water, extends 0.6 mile SSE from the islands.

Malanao Island (9°27'N., 118°37'E.) is a flat island covered with mangroves that are 21m high; it lies 1 mile S of Puntog Islands. The channel between Malanao and Palawan is foul and intricate; it lies between many drying reefs. The channel should only be attempted by small vessels with local knowledge.

Anchorage may be taken off the SW side of Malanao, with **Cutter Point** (9°27'N., 118°35'E.), on Palawan, bearing 270°, 0.9 mile distant, in 6.7m, mud.

The Aborlan River flows out either side of an island, 1.5 miles SW of Cutter Point. The N mouth is deeper and boats can cross the bar which has a depth of 0.9m at half-tide, and reach the wharf at Aborlan, about 1 mile within the entrance.

The usual commercial anchorage is off the mouth of the river, in depths of 7 to 9m, mud and sand.

11.66 Calver Point (9°21'N., 118°32'E.), marked by a light, a double pronged promontory, lies 3.75 miles SW of the Aborlan River. Lola Bay lies between the extremities of the promontory; it has a light yellow sandy beach which is a useful mark for approaching the anchorage near the point.

Sombrero Island (9°22'N., 118°35'E.), a sand cay lying on a reef 2.5 miles E of Calver Point, is 36m high to the top of the trees. Several drying reefs lie W of a line joining the island with Malanao Island, 3.5 miles NNE.

Anchorage can be taken, in 9.1 to 14.6m, between Sombrero Island and Calver Point. Small vessels with local knowledge can find protection from the Southwest Monsoon by anchoring, in 7.5m, mud, NNE of the point.

Vessels can approach these anchorages by steering 277° with the previously-mentioned light yellow beach In Lola Bay ahead. This course leads S of the reef fringing Sombrero Island, between it and a 0.9m patch located 1 mile SSW of the island.

A bank of sand and coral, with a least charted depth of 6.1m, extends 11 miles S from a position 3.25 miles E of Malanao Island. A 7.9m patch lies 2 miles S of Sombrero Island and a 10.1m patch lies 3.5 miles SE of the same island.

Apoapuraguan Point (9°20'N., 118°31'E.), located 2 miles SSW of Calver Point, is low, covered with mangroves, and has low coral cliffs on its S side. The Malasgao River, navigable by boats for 2 miles, discharges 1.5 miles SW of the point.

Native Point (9°17'N., 118°29'E.), 1.25 miles SSW of the Malasgao River, is low, heavily wooded, and fringed by a reef. Arena Island, 19.8m high to the top of the trees, lies on the W part of a reef, 2.5 miles SSE of Native Point.

Two 9.4m patches lie 4.5 and 6 miles NE, respectively, of Arena Island.

From Native Point the coast trends nearly 3 miles SW to Panaca Point and then 2.25 miles farther SSW to **Casuarina Point** (9°15'N., 118°25'E.), which is low and fringed by mangroves.

A sand spit extends 0.3 mile E of Casuarina Point, and Rasa Island, mangrove swamps on a coral reef, lies the same distance E of the spit. Rasa Island blends in with the coastline and is difficult to identify from the offing.

Between the island and mainland W is Mantaquin Bay, affording anchorage and containing several very small islands with adjacent detached coral heads. The 20m curve closely skirts Rasa Island to the E and continues NE to Sombrero Island.

There are numerous, dangerous shoal patches lying in the vicinity of Rasa Island, **Arena Island** (9°15'N., 118°30'E.), and

the 20m curve. These dangers, as well as off-lying shoals, many of them marked by tide rips, are best seen on the chart.

11.67 Island Bay (9° 05'N., 118° 10'E.) indents the coast between **Bivouac Point** (9° 11'N., 118° 21'E.) and **Nariz Point** (8° 53'N., 118° 00'E.). The coast between Casuarina Point and Bivouac Point is low and has several sandy beaches.

Numerous islets, reefs, and dangerous shoals lie in the bay and its approach.

Mountains back the shores of the bay as far as **Pescado Point** (8° 57'N., 118° 02'E.), then the coastal plain extends up to 6.5 miles inland.

The 20m curve lies 2 miles offshore between Bivouac Point and **Relief Point** (9° 10'N., 118° 13'E.). Separation Point, 4.5 miles WSW of Relief Point, is marked by an old blockhouse.

The coast to **Ingiaran Point** (9° 03'N., 118° 06'E.) is fringed by mangroves and fronted by many islands, shoals, and reefs. Crawford Cove, with the town of Labog at its head, is entered between Ingiaran Point and **Scott Point** (9° 02'N., 118° 05'E.). The coast between Scott Point and Nariz Point is low and intersected by several small rivers emptying into coves.

Dangers in the form of islets, reefs, and shoals lie as far as 17 miles off the shores of Island Bay. There are unmarked, intricate channels leading between these dangers and those inshore.

Uncharted dangers may exist, so that even with local knowledge, extreme caution is advised in the bay area. Numerous shoals, best seen on the chart, lie E, S, and SSW of Bivouac Point.

Altnacraig Shoal (9° 00'N., 118° 20'E.), with a least depth of 0.9m, is marked by tide rips and discolored water. An 8.2m patch and an 8.8m patch lie 5 miles N and 3.5 miles NW, respectively, of Altnacraig Shoal. A dangerous wreck lies 1.5 miles SW of Altnacraig Shoal.

Marabout Shoal (8° 57'N., 118° 19'E.), lying 3 miles SSW of Altnacraig Shoal, has a least depth of 5.2m.

Tagalinog Island (8° 53'N., 118° 15'E.), reef-fringed, lies about 5 miles SW of Marabout Shoal.

Barracuda Reef (8° 54'N., 118° 07'E.), with a least depth of 5.5m, and **Talakitok Reef** (9° 00'N., 118° 10'E.), with a depth of 4m, are other inshore dangers. A chain of low, flat, reef-bound islets extend SW between Relief Point and Ingiaran Point.

Nariz Point (8° 53'N., 118° 00'E.), low and covered with mangroves, is located 10 miles SSW of Scott Point; it has a small hill behind it. A small bay, which offers anchorage to small craft with local knowledge, is entered 1 mile N of the point.

The coast SW of Nariz Point is low and heavily wooded. The coast farther SW to Iglesia Point, about 38 miles distant, is also low, densely wooded and indented by many open bights. The coast is bordered by a reef, and shoals extend nearly 2 miles offshore.

11.68 Filantropia Point (8° 51'N., 117° 56'E.), 5 miles SW of Nariz Point, is fringed by a reef which extends 0.4 mile offshore.

Sir John Brooke Point (8° 46'N., 117° 50'E.), marked by a light shown from a pole on the SE side of a blockhouse, is a low inconspicuous point located 7 miles SW of Filantropia Point. Addison Peak, rises to a height of 1,024m, 5.5 miles WNW of Sir John Brooke Point; it is usually clear of clouds and makes a good landmark on approaching the point and adjacent bay.

Brooke's Point, a growing settlement located 0.5 mile NW of Sir John Brooke Point, had a stone pier with a reported depth of 1.2m off its outer end. A concrete pier, close N of the light, dries alongside.

A red-roofed warehouse is conspicuous when approaching from S.

There is a radio station and coastal vessels call regularly to the point. There are medical services.

Anchorage can be taken SW of the town in **Ipolote Bay** (8° 46'N., 117° 49'E.), where there are depths of 5.5 to 9.1m, mud. The bay affords shelter from N and NE winds.

On entering the bay, avoid the coral reef extending about 0.3 mile S and SW of the point.

Dougal Point (8° 41'N., 117° 43'E.) is located about 9 miles SW of Sir John Brooke Point. The intervening shore is low and fronted with sand and swamp.

Segyam Islands (8° 39'N., 117° 38'E.) are two large clumps of mangroves, 0.5 mile apart, lying on the coastal reef. Several rocks, awash, lie 0.5 mile off the islands.

The best passage along this part of Palawan is close to the coastal reef inside the many shoals lying about 3 miles offshore, but is only to be used by vessels with local knowledge.

San Antonio Bay (8° 38'N., 117° 35'E.) is entered between Segyam Islands and Sarap Point, 8 miles SW.

The approach to the bay is encumbered with numerous reefs and shoals, but the inner part, NW of a line from Segyam Islands to the mouth of the Iwahig River, is comparatively free from dangers.

Discolored water from several rivers which flow into the bay make these dangers difficult to distinguish. Reefs and shoals on the W shore of the bay dry at LW for a distance of 1 mile. Bonobono, on the N shore, is the most important settlement.

Dangers fronting San Antonio Bay include **Huevo Shoals** (8° 37'N., 117° 40'E.), with a least charted depth of 1.8m, located 2.25 miles SSE of Segyam Islands; Gull Reef, which dries and is steep-to on its SE side, lies 3.5 miles E of Sarap Point; Egg Reef, which has a small sand cay on it, lies 1.75 miles NNE of Gull Reef, and **Pirate Island** (8° 33'N., 117° 33'E.) lies 1.5 miles offshore, SE of Sarap Point.

There is an anchorage sheltered from SW winds for small vessels with local knowledge, N of Pirate Island, in a depth of 27m, mud.

Unless bound for San Antonio Bay, do not close this part of the coast nearer than 8 miles, as local knowledge is essential for safe navigation among the numerous coral shoals of this region.

Iglesia Point (8° 30'N., 117° 29'E.), 5.5 miles SSW of Sarap Point, is low and flat, consisting primarily of mangrove. A flat-topped hill close N of the point is a good landmark in this area. The coast from Sarap Point to Iglesia Point is fronted by a coral reef which dries at LW; the reef extends about 1 mile SE from Iglesia Point.

11.69 The coast between the point and cape is slightly indented and densely fringed by mangroves. A narrow, drying reef fronts the coast which is intersected by many rivers.

The 20m curve lies from 0.5 to 2 miles offshore; many banks and detached dangers lie as far as 40 miles offshore. The channel between Palawan and Pandanan, connecting Coral Bay with the South China Sea, has depths over 18.3m, but it is unmarked and difficult to transit.

Depths of 18.3m and more exist in Coral Bay, but the approaches from E and NE are mostly foul.

The flood current sets SW at a velocity up to 2 knots in the channel between Pandanan Island and Palawan. Strong tidal currents and tide rips are found in the various channels leading between the islands off the S end of Palawan.

Off-lying dangers include **Wakefield Shoal** (8° 19'N., 117° 52'E.), steep-to on its W side, with a least depth of 3.6m; the shoal lies 24.5 miles ESE of Iglesia Point. Wright Shoal, a detached steep-to shoal with a least depth of 1.8m, lies 12 miles W of Wakefield Shoal.

Argyll Shoal, 4.25 miles WNW of Wright Shoal, has a least charted depth of 4m.

Ursula Island (8° 20'N., 117° 31'E.) is low, sandy, and densely covered with vines and trees which reach a height of 30m. A reef extends 0.75 mile NE from the island.

Dickens Shoal, 4.5 miles SSW of Ursula Island, consists of two detached reefs lying about 0.75 mile apart.

The W reef has a least depth of 4.3m and the E reef has a least depth of 6.7m.

A depth of 4m was reported to lie about 13 miles SSW of Wakefield Shoal. Additionally, it was more recently reported to have a depth of 4.5m, the position of which lies approximately 12.5 miles SSW of Wakefield Shoal.

11.70 Coral Bay (8° 25'N., 117° 20'E.) lies between the SE end of Palawan and the N shores of Pandanan and Bugsuk Islands. The bay is encumbered with innumerable shoals and reefs, the latter frequently having sand cays near their W edges. These reefs break the swell coming from the Sulu Sea during the Northeast Monsoon, but leave a choppy sea in the bay.

The area between **Arrecife Island** (8° 26'N., 117° 26'E.) and the N end of Bugsuk Island is extremely foul. A clear area in the middle of the bay has depths of 18.3 to 33m.

It is reported that vessels load bulk ore (nickel silicate) off the **Rio Tuba** (8° 30'N., 117° 26'E.), 3 miles W of Iglesia Point. Loading is carried out from lighters, using ship's gear.

The anchorage is reported to be about 1.5 miles N of Arrecife Island, in a depth of about 18m.

There are two entrance channels into Coral Bay. Vessels from N enter the bay by passing about 1.5 miles N of Arrecife Island, using the sand cays to fix position while in transit. This channel has a general depth of 31m.

Vessels from the W or S enter the channel S of Cape Buliluyan and between Pandanan Island and Palawan.

The channel has depths of 51 to 42m. The current sets SW on the flood, with a velocity of 2 knots in this channel.

There is a shoal patch of 3.2m and a reef, awash, in about the middle of the channel and a 4.6m patch in the channel about 3.5 miles N of **Bowen Island** (8° 21'N., 117° 19'E.).

All are shown on the chart. Local knowledge is absolutely necessary in transit of this area.

Pilotage is compulsory and the pilot is provided from Puerto Princesa, which is required at least 24 hours notice of ETA. The pilot boards from a canoe, about 5 miles NNE of Ursula Island.

Anchorage can be taken in the middle of Coral Bay, in depths over 18.3m, mud. There is a good typhoon anchorage in 12.8m, sticky mud, close W of the largest **Cabugan Island** (8° 24'N., 117° 16'E.).

11.71 Cape Buliluyan (8° 20'N., 117° 12'E.), the S extremity of Palawan, has depths of 7.3 to 14.6m off its S side. The W side is reef-fringed and partly drying. Between the E side of the cape and the N end of Pandanan there are depths of 51.2 to 54.9m.

Pandanan Island (8° 17'N., 117° 13'E.), separated from the SE end of Palawan by a channel about 1 mile wide, is flat and densely wooded. Its shores consist of both mangroves and rocks. Drying reefs almost completely encircle the island. The drying reef, which fringes the S and SW island, extends up to 2.5 miles offshore.

Dalahican Island (8° 18'N., 117° 11'E.), low and sandy, lies 1 mile off the NW side of Pandanan Island on the SE side of a coral reef. A deep channel, clear of dangers in the fairway, runs between these islands.

Canimeran Island lies on the S end of a reef, 2.5 miles W of Dalahican Island. Shoal water, with depths of 5.5 to 7m, extends 2.5 miles N from the island.

Patongong Island (8° 17'N., 117° 07'E.), lies on the SE side of a coral reef which dries, 1.25 miles SW of Canimeran Island. There is a channel 0.5 mile wide, clear of dangers in the fairway, between these two islands; this channel appears to be the best approach to the channel leading along the NW side of Pandanan Island.

Bugsuk Island (8° 15'N., 117° 18'E.) is reef-fringed on its W side where it is separated from Pandanan Island by a channel about 0.2 mile wide. Drying reefs and foul ground extend up to 2 miles from the E and SE sides of this low, flat island. Apo, Byan, and Gabung, small islands, lie on reefs off the SW side of Bugsuk.

Bancalan Island (8° 14'N., 117° 06'E.), a low, wooded island, lies on the N side of North Balabac Strait, 3.5 miles SW of Pandanan Island. A drying reef extends about 1.25 miles W and NW from the W side of the island.

Numerous, dangerous shoal patches, shown on the chart, lie between the island, Pandanan Island, and Patongong Island. Patawan Islet, reef-fringed, lies 1.25 miles E of Bancalan.

An 11.9m channel leads E of Patawan and then to Patongong Island.

Mantangule Island (8° 10'N., 117° 10'E.) is densely wooded and fringed by drying reefs for 1.25 miles off its S and W sides. Foul ground lies in the vicinity of the island, extending to Byan Island, 0.75 mile E, and to Bancalan Island, 2.25 miles NNW.

Malinsono Island is low and densely wooded, and is connected to Mantangule, 1 mile to the S, by a drying reef.

11.72 Canabungan Island (8° 07'N., 117° 08'E.) lies 1.5 miles S of Mantangule Island. It is low and wooded, and lies on a drying reef extending NW and SE.

Detached shoal patches, lying off the S and SW sides of the reef, are contained within the 40m curve which closely parallels the island.

The channel between Pandanan Island and Dalahican Island and the Palawan coast is frequented by coasting vessels. It is deep and about 0.7 mile wide.

Southeast of Canimeran Island it branches into two deep channels which permit passage to the South China Sea.

The N channel, with depths of 31m and over, is about 0.2 mile wide between the reefs that fringe Canimeran Island and Patongong Island.

This channel follows closely along the edge of the reef surrounding the latter island and appears to be the best approach to the channel that leads along the NW side of Pandanan Island.

The channel S of Patongong Island enters from the W and follows closely along the edge of the reef that fringes that island and then passes about 0.5 mile E of that island.

The channel is about 0.3 mile wide between the dangers lying off the N coast of Bancalan Island and the reef that fringes Patongong Island. It is very deep in the fairway, but should be attempted only when the reefs are plainly visible.

Vessels with local knowledge can anchor, in 12.8 to 27m, mud and sand, anywhere within the area between Pandanan Island, Bancalan Island, and Mantangule Island. The channels leading to the anchorages are intricate, with strong tidal currents and rips in them.

During rough weather, vessels with local knowledge can anchor in the S entrance of the channel, or in the channel itself, which leads between Bugsuk and Pandanan Islands.

Inter-island vessels, calling at Bugsuk to load copra, anchor about 1.7 miles S of the S end of Bugsuk Island.

During the Northeast Monsoon, the best anchorage is SE of Patawan Island, in 16.5 to 24m, taking care to avoid the shoals E of Bancalan and Patawan Islands.

During the Southwest Monsoon, vessels can anchor, in 16.5 to 27m, mud and sand, in a position with the SE extremity of Patongong Island bearing 000°, distant 1.75 to 2.5 miles.

Directions.—Vessels coming from the South China Sea should pass well N of the reefs and shoals that extend 2 miles NW from the NW extremity of Bancalan Island. A course of 103°, with the S extremity of Pandanan Island ahead, leads through the entrance channel.

When Canimeran Island opens E of Patongong Island the course should be altered to 090° and held until the SE extremity of Patongong Island bears 000°. Then, the course should be altered to 037°, passing about 0.5 mile E of Patongong Island.

This course leads into the main channel NW of Pandanan Island.

Southbound vessels for the anchorages in the vicinity of Patawan Island should alter course to 160° when the E tangent of Patongong Island bears 000°.

This course leads between a 0.3m reef, located 1 mile S of the SE extremity of Patongong Island, and a 8.6m shoal located 0.75 mile SSE of the same extremity.

In order to clear these dangers, vessels should keep the E extremity of Bancalan Islands always W of S. Having cleared these dangers, vessels can pass fairly close W and S of Patawan Island and anchor as convenient.

North Balabac Strait—Balabac Island

11.73 North Balabac Strait (8°11'N., 117°04'E.) is bounded on the NE by Bancalan Island, Matangule Island, and Canabungan Island. Secam Island, Ramos Island, and Candaraman Island form the SW side of the strait.

North Balabac Strait has a least navigable width of 1.75 miles, a length of 11 miles, and is clear of dangers in the fairway. The strait has depths of 35 to 110m in the channel and connects South China Sea with the Sulu Sea. Bate Channel, deep and about 1.7 miles wide, connects North Balabac Strait with the waters to the W. The strait is used by inter-island vessels bound for harbors on both coasts of Palawan and by vessels navigating between Palawan Passage and the Sulu Sea.

Strong currents exist in the constricted part of North Balabac Strait. Velocity and direction depend to a great extent on the force and direction of the monsoon. The maximum velocity is 2.5 knots. The flood current sets SE through the strait; the ebb, NW.

In Bate Channel, the flood and ebb currents set E and W, respectively, with a maximum velocity of 2.5 knots.

Strong rips and eddies occur in the strait and channel, especially in the vicinity of **Encampment Point** (8°07'N., 117°03'E.).

Secam Island (8°10'N., 117°01'E.), on the W side of the N approach to the strait, is low, narrow, and wooded.

A drying coral reef fringes the island, and shoal ground, with a least depth of 7.3m, extends 2 miles NW.

Anchorage, partially sheltered from SW sea and swell, can be taken, in depths of 35 to 37m, sand and coral, about 1 mile N of the island, with the E extremity bearing 180°.

Ramos Island (8°06'N., 117°01'E.), mostly low with high hills in the interior, is separated from Secam Island by **Bate Channel** (8°09'N., 117°01'E.), almost 2 miles wide with depths of 46 to 91m. The NW and SW sides of the island are reef-fringed; mangroves fringe the other sides. A 9.1m patch lies 1.25 miles NNW of Encampment Point.

Northwest Shoals (8°06'N., 116°56'E.) is an extensive shoal, with depths of 3.7 to 9.1m, lying W of Ramos Island and separated from it by a deep water channel.

11.74 Candaraman Inlet (8°05'N., 117°03'E.), tortuous and with a least width of 0.1 mile, separates Ramos and Balabac Islands. Albay Islet, foul ground, and detached shoals lie in the inlet and its entrances which can be used by vessels of 9m draft with local knowledge.

Strong tidal currents set E during the flood and W during the ebb. Heavy tide rips and eddies form during spring tides. The dangers within the inlet are visible on a rising tide.

Candaraman Island (8°05'N., 117°06'E.), low and flat, lies on a steep-to reef at the most constricted part of North Balabac Strait.

Caxisigan Island (8°05'N., 117°04'E.), lying between Candaraman and the SE end of Ramos Island, is encircled by shoals, but deep, constricted channels lie between Caxisigan and the islands of Ramos and Candaraman.

Anchorage.—Anchorage can be taken in sheltered Candaraman Inlet, E or W of **Albay Islet** (8°05'N., 117°02'E.), where the depths are 7.3 to 12.8m, mud.

Ramos Anchorage, an inlet formed by a break in the reef on the NW side of the island, has an entrance channel at least 91m wide at its head, with depths of 11 to 21.9m.

Small vessels anchor about 0.5 mile offshore in 7.3 to 11m, sand. Larger vessels can anchor, in 12.8m, about 0.75 mile from shore and in mid-channel. This anchorage is used by vessels loading lumber.

Directions.—From a position about 8 miles NNW of Secam Island steer a course of 142° which leads mid-channel between Secam Island, Bancalan Island, Canabungan Island, and Candaraman Island.

11.75 Balabac Island (7° 57'N., 117° 01'E.), lying 17 miles SSW of Cape Buliluyan, is thickly wooded. High hills stand in the N part of the island and there are several ranges of hills in the S part. Steepfall Range has several high table-topped hills with steep sides, rising to a height of 294m. Balabac Peak, charted as 408m but reported to be 569m, lies 8.75 miles S of the N extremity of the island. It was reported to be a good radar target at 36 miles. The island was reported to give good radar returns at 21 miles distant.

A weak current flows S and close inshore along the E coast of Balabac. The tidal currents off the W and SW sides of the island follow the general trend of the reef edges at a rate of 1 to 1.5 knots. The ebb setting SW and W off Cape Melville and NW and N along the edges of the reefs creates tide rips and confused seas when opposing a N breeze.

The N coast of Balabac lies between **Padre Point** (8° 04'N., 117° 00'E.) and Andreyro Point, 4 miles ENE; the coast is lined by mangroves.

Sanz Island (8° 04'N., 117° 01'E.) lies in the W entrance to Candaraman Inlet, close N of Padre Point. Albay Islet lies in the same inlet about 1.7 miles ENE of Sanz Island.

11.76 Andreyro Point (8° 05'N., 117° 04'E.) is the NE extremity of Balabac Island. From this point of the island the coast trends 10.5 miles SSE, then about 7 miles SSW to Cape Melville, the S extremity of the island.

There are few indentations along this coast, which is fairly steep-to. Andreyro Point and the E extremity of the island are fringed by reefs. A small bay is formed about 3.75 miles S of Andreyro Point; it is about 0.3 mile wide in the entrance, but the channel is reduced to about 137m by drying reefs which extend from both entrance points.

The shores are bordered with mangroves and backed by wooded hills. Small vessels may anchor in the NW corner of the bay, in a depth of 16m, mud.

Calandorang Bay (8° 00'N., 117° 04'E.) is entered between Sarmiento Point and Espina Point, about 1 mile farther S. This bay is separated from the small bay described above by a peninsula formed by high hills.

A light is shown on Espina Point and a conspicuous white fuel tank stands 0.2 mile S of the light. Reefs extend 0.1 mile off the S shore of the bay and off Espina Point.

A mooring buoy is laid about 0.2 mile W of the lighthouse.

There is a depth of at least 5.5m in the bay, with an entrance 0.4 mile wide and 37m deep.

11.77 Balabac (7° 59'N., 117° 04'E.) (World Port Index No. 59280), Balabac is a small town located on the S shore of Calandorang Bay. There is a stone pier in ruins, but there is a loading T-head conveyor pier for the export of copper ore. Pilings, set out as an extension of the pierhead, allow for 122m of berthage. Mooring buoys beyond the lines of pilings are used to secure the vessel. The depth alongside the T-head and pilings is 7.6 to 9.1m at MLW. A maximum draft of 7.6m is allowed.

Vessels must first proceed to Batangas for Customs clearance and the embarking of a coastal pilot. It is a port of call for inter-island trade. The tidal range is about 1.3m. A 150m long rock causeway extending N from shore has a stair landing and depths of about 3m alongside. There is a radio station in town.

Anchorage.—Vessels can anchor, in 14.6m, mud, with Espina Point bearing 109°, distant about 0.25 mile, sheltered from the Southwest Monsoon. During the Northeast Monsoon, better protection is afforded in the N part of the bay. Vessels can also anchor NE of the pier, in 7.3 to 14.6m, mud.

Directions.—Balabac Harbor is an easy access. Vessels should come to a position with the light structure bearing 240°, distant 0.4 mile, and steer a mid-channel course of 270° through the entrance.

When the light structure bears 159°, the course should be altered to 233° heading for the bluff W of the town.

Vessels are cautioned to proceed slowly as the depths decrease sharply when within the 20m curve. When the light structure bears 109°, vessels can anchor, in 14.6m, mud. Smaller vessels can come closer in and anchor according to draft.

11.78 Espina Point (7° 59'N., 117° 04'E.), marked by a light, is dominated by a hill 32m high. From this point the coast trends SSE 5.5 miles to the N entrance point to Dalawan Bay.

Dalawan Bay is entered between **Minigas Point** (7° 54'N., 117° 05'E.) and Timbangan Point, 1 mile SSW.

The entrance points are fringed with mangroves and the shores are densely wooded. The bay may be identified by the low land extending WNW, separating the high land in the vicinity of Balabac Peak from Transept Hill, a conspicuous hill 2.25 miles W of Timbangan Point.

Depths of 33m in the entrance shoal gradually to the head of the bay. Reefs, partly drying, extend 0.25 mile from the entrance points.

A rock, bare at LW, marks the S edge of the reef off the N entrance point. A least depth of 0.9m exist on the reef extending from the S point.

Anchorage can be taken in the middle of the bay, 0.5 mile from its head, in a depth of 16.5m, mud.

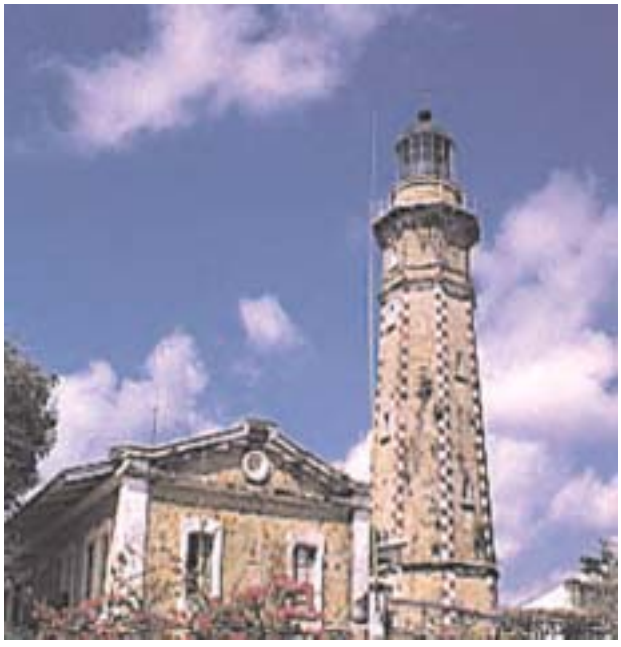
Clarendon Bay (7° 49'N., 117° 01'E.), 5.25 miles SSW of Timbangan Point, is entered between Inanacule Point, the N entrance point, and Barong Barong Point, about 0.3 mile S. There are depths of 7.3 to 11m, mud, in the bay.

The entrance channel is about 45m wide between the reefs on either side.

A T-shaped stone jetty at the NW corner of the bay is used for landing supplies for Cape Melville Light.

Anchorage by small vessels can be taken, in 8.2 to 9.1m, mud, about 0.5 mile NNW of Barong Barong Point.

Cape Melville (7° 48'N., 117° 00'E.), the S extremity of Balabac Island, is fringed by a drying reef that extends 0.5 mile



Cape Meliviile Light

offshore. Numerous detached shoal patches of less than 6.4m are enclosed by the 9.1m curve trending about 1 mile offshore. Tide rips are prevalent seaward. A light stands 1.5 miles NW of the cape extremity. Cape Melville is a good radar target from 17 miles distant.

From Cape Melville, the W coast of Balabac trends 9.5 miles NNW to **Ligas Point** (7° 56'N., 116° 56'E.), then 7 miles NNE to Martinez Point, the NW extremity of the island.

The W coast is low and mostly fringed with mangrove swamps. It is fronted by many detached dangers which lie at least 8 miles offshore. Vessels should keep outside the 91m curve when navigating off this coast.

Southwestern Bank, with a least charted depth of 4.9m, located 4.5 miles WSW of the light on Cape Melville, extends in a ESE to WNW direction for a distance of 8 miles. Tide rips may be seen on this bank.

11.79 Gnat Reef (7° 51'N., 116° 58'E.), a large area of drying reef with a sand cay in its center, lies 2.75 miles NW of Cape Melville Light.

Balabac Great Reefs, which dry, lie with their S extremity 5 miles WNW of Cape Melville Light. This reef extends 8 miles N and lies 1.25 miles W of Ligas Point near its center.

Western Shoals (7° 58'N., 116° 50'E.), with a least charted depth of 4.9m, sand and coral, lie with the least depth 5.5 miles WNW of Ligas Point. These shoals parallel Balabac Great Reefs at a distance of 3.5 miles.

A deep passage lies between Western Shoals and Balabac Great Reefs, but there are several shoals with depths of 4.9 to 9.4m in it. This passage should not be attempted without local knowledge.

A detached bank, with a depth of 12.8m, lies 9 miles WSW of Ligas Point. A similar bank, with a depth of 14.6m, lies 9.25 miles WNW of the same point.

Ada Reef (8° 02'N., 116° 55'E.), which dries, lies 3 miles WSW of Martinez Point. Foul ground, with below-water rocks and drying rocks, lies between the reef and point.

Pasig Bay (7° 51'N., 117° 00'E.), a small shallow bay partly filled with mud flats, lies 1.75 miles NNW of Cape Melville light. The bay can be entered by small craft with local knowledge.

Ligas Point, the prominent W extremity of Balabac, lies 6.75 miles NNW of Pasig Bay. There is a channel between Gnat Reef and Balabac Reefs which leads to an anchorage 1.75 miles SSW of Ligas Point.

A channel also lies between Ligas Point and Balabac Great Reefs. No vessel without local knowledge should use these channels. After heavy rains the reefs are hard to see because of water discoloration.

Catagupan Bay (7° 58'N., 116° 57'E.) indents the coast between Ligas Point and Sigumay Point, 3.75 miles NNE.

The bay, fouled by detached reefs and shoals, can be entered by channels from W and S, but local knowledge is essential.

The W approach leads 0.75 mile S of Ada Reef, through a break in the reef 1.25 miles W of Sigumay Point.

Sharp Peak (7° 54'N., 116° 59'E.) is a good landmark.

The tidal currents are fairly strong throughout the entire coastal reef area.

Caution is essential, especially after rainfall, when reef visibility is poor.

11.80 Martinez Point (8° 03'N., 116° 58'E.), 3.5 miles NNE of Sigumay Point, was reported to be a good radar target at 35 miles distant. A spit, which has many rocks awash and below-water, extends 2.25 miles N from the point, and a rock 9.1m high, lies 0.2 mile N from the point.

Port Ciego is entered between Martinez Point and **Paz Island** (8° 05'N., 116° 59'E.), 2 miles NNE. The passage into Port Ciego is deep but is constricted by rocks and reefs and is only suitable for small vessels with local knowledge.

Padre Point, the W extremity of the N coast, lies 2 miles ENE of Martinez Point. The shores of the bay between these points are fringed with mangroves, and drying reefs extend up to 1.25 miles offshore.

Anchorage can be taken about 1 mile S of **Sigumay Point** (8° 00'N., 116° 57'E.), in a depth of 14.6m. Vessels may also anchor 2 miles W of the point, in 26m, mud, taking care to avoid the 4.9m patch W of the anchorage.

Anchorage can be taken in the entrance of Pasig Bay, protected by Gnat Reef, but open SW, in a depth of 11 to 14.6m.

Balabac Strait

11.81 Balabac Strait (7° 40'N., 117° 00'E.) connects the South China Sea and the Sulu Sea. It is deep and clear of dangers in its W part, but its E part is encumbered with numerous islets, reefs, and dangers. Several navigable channels lead through these dangers; from N to S they are North Channel, Nasubata Channel, Comiran Channel, Lumbucan Channel, Simanahan Channel, Middle Channel, Mangsee Channel, and Main Channel.

Winds—Weather.—Between Palawan and Borneo, the Northeast Monsoon prevails from November to March and has the strongest and most consistent winds. Strong winds and heavy rains occur during November and December.

The Southwest Monsoon prevails from May to October and is characterized by periodic winds and much rain. Variable winds are experienced during April.

The Balabac Strait area is outside the regular typhoon belt; however, in 1932, a severe typhoon caused extensive damage.

Tides—Currents.—From December to March, the currents produced by the Northeast Monsoon are constant and set W through Balabac Strait and E from September to November. The currents are variable and often indefinite and depend to a great extent on the wind blowing at the time.

During the months of October and November, after a period of W winds, the current was observed to be setting constantly E, slackening only during the period of the W tidal current. During the month of July, after a period of light E and SE winds, the current was observed to be setting W with a mean velocity of 1.75 knots.

In North Channel and Nasubata Channel, the currents are strong. This is especially true during the strength of the monsoon when the current and tidal current are combined and sweep through the channels in the general direction of North Balabac Strait.

Caution.—Numerous logs, driftwood, roots of palm trees, etc., dangerous to shipping, are found in Balabac Strait and approaches.

A depth of 24m was reported to lie in the W approach to Balabac Strait in position (approximate) 7° 32.5'N, 116° 32'E.

A reporting system applies to all vessels, including pleasure craft and seaplanes on the water, transiting the area. Vessels should establish contact on VHF channel 16 with Balabac Coast Watch Station, call sign Coast Watch Balabac, when entering or departing Balabac Strait or passing Balabac Island.

Vessels should report the following information:

1. Vessel name.
2. Call sign.
3. Course and speed.
4. Port of registry and nationality.
5. Type of vessel.
6. Type of cargo on board.
7. Port of destination and ETA.
8. Last port of call.
9. Number of crew on board.
10. Master's name.

North Channel (8° 04'N., 117° 14'E.), lying SE of the North Balabac Strait, has a least width of about 4.2 miles between Nasubata Reef and the shoals and reefs extending SE from Canabungan Island. Depths in the channel exceed 46m, however a 9.1m depth, whose position is doubtful, lies 3.5 miles N of Nasubata Islands. During the height of the monsoon season the currents attain a considerable velocity.

Nasubata Islands (8° 01'N., 117° 10'E.), the farthest N and highest is a cleft rock of sandstone formation 27m high to the top of the trees, lie 5.25 miles E of Sarmiento Point. The islands are located at the N end of Nasubata Reef.

Roughton Island lies about 2.75 miles E of Nasubata Islands. The island lies in the NW part of Roughton Reef, which is partly awash at LW. The NE side of the reef is fronted by a bank which extends about 0.6 mile offshore, all other areas are steep-to. The channel between Nasubata and Roughton Reef is deep and clear of charted dangers.

Nasubata Channel (7° 57'N., 117° 14'E.) is formed between Nasubata Reef and Roughton Reef on the N side, and Comiran Island and associated dangers on the S. This channel, which has depths over 48m, is the recommended channel for vessels in transit between the South China and Sulu Seas.

Nasubata Channel is 4.5 miles wide between Roughton Reef and Comiran Island.

Caution must be exercised because at times the tidal stream, when combined with the current, sweeps through the channel in the direction of North Balabac Strait at a considerable rate.

Comiran Island (Comiaran Island) (7° 55'N., 117° 13'E.), marked by a light, lies on the NW side of Comiran Danger Bank, 6.25 miles SSE of Roughton Island. This low, flat island is encircled by coral reef which bares at LW.

A shoal, with a depth of 2.4m, lies on Comiran Danger Bank, 0.8 mile SSW of Comiran Island.

A shoal, with a depth of 4.9m, lies 1 mile E of the island.

In 1990, it was reported that a least depth of 85m was recorded in a position 2.8 miles N of Comiran Island.

11.82 Comiran Channel (Comiaran Channel) (7° 53'N., 117° 14'E.) is about 3 miles wide between Comiran Danger Bank and the N edge of Lumbucan Danger Bank. The channel contains numerous scattered shoals of 7.3 to 12.8m. This passage is navigable, but it is not recommended as there are better channels in the vicinity.

Lumbucan Island (7° 40'N., 117° 13'E.) is triangular shaped and is about 30m high; it lies 5 miles S of Comiran Island. The island has been reported to be a good radar target at 15 miles. The island is encircled by reefs and shoal water, with depths of less than 1.8m, that extend about 1.5 miles WSW and N of the island. Several parts of the reef are bare at low water. The dangers in the vicinity of the island are called Lumbucan Danger Bank.

These dangers include Northeast Shoal, with a depth of 2.7m, lying 2.5 miles NE of the E extremity of Lumbucan Island; East Shoal and South Shoal, with depths of 4.6m and 2.3m, lie E and S, respectively, of the island.

Lumbucan Channel (7° 47'N., 117° 15'E.), between Lumbucan Danger Bank on the N, Ellis Shoal and Simanahan Reef on the S, is about 4 miles wide with depths of 11 to 55m. Detached patches of 12.3 to 16.5m lie in mid-channel between Ellis Shoal and Lumbucan Island.

Doorly Patches (7° 48'N., 117° 21'E.), with depths of 11 to 18.3m, are steep-to and lie in the middle of the E entrance to the channel.

Ellis Shoal (7° 44'N., 117° 10'E.) consists of a number of coral heads, with a least depth of 3.2m, lying at the S side of the W entrance to the channel.

Simanahan Reef (7° 45'N., 117° 19'E.), about 5 miles long, lies within the 20m curve. The center of the reef dries at LW over a length of 1.5 miles. At HW, discolored water marks the drying area. Outside this area, depths of less than 5.5m exist on the reef.

Simanahan Channel (7° 43'N., 117° 19'E.), 8 miles SE of Lumbucan Island, lies between Simanahan Reef and the N part

of Great Danger Bank; it is 1.5 miles wide and deep in the fairway. To avoid Ellis Shoal, a course of 090°-270° should be steered through this channel. The channel is seldom used.

Great Danger Bank (7° 37'N., 117° 19'E.) is composed of numerous reefs and shoals; many of the reefs dry. No vessel should approach it closely.

11.83 North Patches (7° 42'N., 117° 19'E.), with a least charted depth of 6.4m, lie near the N end of Great Danger Bank, 9 miles SSE of Lumbucan Island.

Northwest Shoals, with depths from 2.7 to 5.5m, lie at the NW end of the bank, 2.5 miles SW of North Patches.

Middle Shoals lie 4.25 miles S of North Patches, and **Southeast Shoals** (7° 35'N., 117° 25'E.), 6.5 miles SE of Middle Shoals, comprise several coral patches with depths of 3 to 8.2m. A shoal, with a depth of 20.1m, the position of which is approximate, lies 5 miles NE of Southeast Shoals.

A sand cay, the only part of Great Danger Bank above water, lies close W of Southeast Shoals.

Middle Channel (7° 34'N., 117° 18'E.) separates the S edge of Great Danger Bank from Mangsee Danger Bank.

The channel is about 1 mile wide with depths of 29 to 62m in the middle.

Ray Bank (7° 40'N., 117° 09'E.), in the NW approach to the channel, has a least depth of 5.5m.

Mangsee Danger Bank (7° 33'N., 117° 17'E.) lies between Great Danger Bank and Mangsi Great Reef, about 7 miles SSW. The bank is comprised of Mangsee Islands, Loxdale Shoal, Jessie Shoal, and Salingsingan Island.

Loxdale Shoal (7° 34'N., 117° 13'E.), the farthest W of the dangers located on Mangsee Danger Bank, has a least charted depth of 4m.

Salingsingan Island, about 2.25 miles E of Loxdale Shoal, is low, flat and wooded. Shoals and foul ground encircle the island and a bank, nearly awash in places, extends 1.25 miles W from the island.

In 1991, a shoal (position approximate) was reported to exist about 2 miles N of the E end of Salingsingan Island, lying on the N side of the fairway.

Jessie Shoal (7° 32'N., 117° 21'E.), on the E side of the bank, 3 miles ESE of Salingsingan Island, has a depth of 1.8m.

North Mangsee Island (7° 31'N., 117° 18'E.), 2 miles S of Salingsingan Island, is 40m high; it is wooded. Reefs and shoals extend 2.25 miles ESE and 3.25 miles WNW from the island.

South Mangsee Island (7° 30'N., 117° 18'E.) is low, flat and wooded; it is fringed by a reef. The island lies in the SE part of the bank; it was reported to be a good radar target at 17 miles distant.

11.84 Mangsee Channel (7° 30'N., 117° 17'E.), separating Mangsi Great Reef and Mangsee Danger Bank, is about 1 mile wide at its narrowest part. The depths in the channel fairway are at least 18.5m. Steep-to reefs lie on both sides of the channel which is considered secondary; it is rarely used by ships.

A danger area encompasses Mangsee Channel and Mangsee Islands. The area has not been thoroughly swept clear of mines.

Directions.—Nasubata Channel is the recommended route for vessels passing through Balabac Strait enroute to the Sulu Sea and Philippine Island ports. From a position with Balabac Peak bearing 061°, distant 25 miles, a course of 090° for about 21 miles leads to a position with Cape Melville light bearing 344°, distant 6 miles.

Then a course of 035° for about 15.5 miles leads to a position with Espina Point Light, bearing 300°, distant about 7 miles. From this position a course of 074° will lead through the fairway of Nasubata Channel and into the Sulu Sea.

There are many affirmed and doubtful depths in the area E of Balabac Strait. In fact, the area W of the strait has not been closely examined, so that there could be uncharted dangers existing both E and W of the strait. No attempt will be made to list all the reported positions of doubtful depths as they are all shown on the chart.

Borneo Bank (7° 40'N., 117° 37'E.) is a patch of discolored water with the bottom visible and with a depth of 12.8m or less.

Three shoals, with depths of 18.3, 12.8, and 18.3m, were reported to lie 24, 25, and 26 miles SE, respectively, of Borneo Bank.

Kestrel Rock (7° 28'N., 117° 23'E.) is a rocky shoal with a depth of 6.4m. An 8.2m patch lies 0.75 mile SSE.

Borneo Shoal (7° 22'N., 117° 32'E.), with a depth of 3.7m, lies about 16 miles, bearing 123° from South Mangsee Island.

A 5.9m patch and a 7.3m shoal lie 4.5 and 3.25 miles SE and S, respectively, of Borneo Shoal.

Fearless Shoal (7° 23'N., 117° 37'E.), with a depth of 7.3m, lies about 20.5 miles, bearing 112° from South Mangsee Island.

A 4.6m shoal was reported to exist about 9 miles SE of Fearless Shoal.